EXHIBIT NO. PTX-004 evid.
CAUSE NO. 3:22cv734-DPJ-HSO-LHS
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FEB 26 2024

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF MISSISSIPPI
Candice Clark, REPORTER

UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF MISSISSIPPI
NORTHERN DIVISION

MISSISSIPPI STATE CONFERENCE OF THE
NATIONAL ASSOCIATION FOR THE
ADVANCEMENT OF COLORED PEOPLE; DR.
ANDREA WESLEY; DR. JOSEPH WESLEY;
ROBERT EVANS; GARY FREDERICKS; PAMELA
HAMNER; BARBARA FINN; OTHO BARNES;
SHIRLINDA ROBERTSON; SANDRA SMITH;
DEBORAH HULITT; RODESTA TUMBLIN; DR.
KIA JONES; MARCELEAN ARRINGTON;
VICTORIA ROBERTSON,

      Plaintiffs,

    vs.

STATE BOARD OF ELECTION
COMMISSIONERS; TATE REEVES, *in his official
capacity as Governor of Mississippi*; LYNN FITCH, *in
her official capacity as Attorney General of
Mississippi*; MICHAEL WATSON, *in his official
capacity as Secretary of State of Mississippi,*

      Defendants,

AND

MISSISSIPPI REPUBLICAN EXECUTIVE
COMMITTEE,

      Intervenor-Defendant.

**CIVIL ACTION NO.
3:22-cv-734-DPJ-HSO-LHS**

AMENDED EXPERT REPORT OF DR. LISA HANDLEY

I. Introduction

Scope of Project I was retained by plaintiffs in this case as an expert to conduct an analysis of voting patterns by race in several areas in the State of Mississippi to determine whether voting in these areas is racially polarized. In addition, I was asked to assess the ability of Black voters to elect their candidates of choice in these areas, comparing the state legislative plans adopted by the Mississippi State Legislature (Adopted State Senate and House Plans) to the illustrative plans (Illustrative State House and Illustrative State Senate Plans) drawn by plaintiffs' expert demographer, Bill Cooper, in this litigation.[1]

Summary Conclusions In the seven areas of Mississippi that I studied for this project, voting is starkly racially polarized. This polarization impedes the ability of Black voters to elect candidates of their choice to the state legislature unless districts are drawn that provide Black voters with an opportunity to elect their preferred candidates. The Adopted State Senate and State House Plans fail to offer Black voters an opportunity to elect their preferred candidates in areas of the state where voting is racially polarized and where (as demonstrated by the Illustrative State Senate and State House Plans) additional majority Black opportunity districts could have been created. This failure dilutes the opportunity of Black voters to participate in the electoral process and to elect candidates of their choice to the Mississippi State Legislature.

II. Professional Background and Experience

I have over thirty-five years of experience as a voting rights and redistricting expert. I have advised scores of jurisdictions and other clients on minority voting rights and redistricting-related issues. I have served as an expert in dozens of voting rights cases. My clients have included state and local jurisdictions, independent redistricting commissions (Arizona, Colorado, Michigan), the U.S. Department of Justice, national civil rights organizations, and such international organizations as the United Nations.

I have been actively involved in researching, writing, and teaching on subjects relating to voting rights, including minority representation, electoral system design, and redistricting. I co-authored a book, *Minority Representation and the Quest for Voting Equality* (Cambridge University Press, 1992), and co-edited a volume, *Redistricting in Comparative Perspective* (Oxford University Press, 2008), on these subjects. In addition, my research on these topics has

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[1] I am being compensated at a rate of $300 an hour for work on this project.

appeared in peer-reviewed journals such as *Journal of Politics*, *Legislative Studies Quarterly*, *American Politics Quarterly*, *Journal of Law and Politics*, and *Law and Policy,* as well as law reviews (e.g., *North Carolina Law Review*) and a number of edited books. I hold a Ph.D. in political science from The George Washington University.

I have been a principal of Frontier International Electoral Consulting since co-founding the company in 1998. Frontier IEC specializes in providing electoral assistance in transitional democracies and post-conflict countries. In addition, I am a Visiting Research Academic at Oxford Brookes University in Oxford, United Kingdom. Attached to the end of this report is a copy of my curriculum vitae.

III. Analyzing Voting Patterns by Race

An analysis of voting patterns by race serves as the foundation of two of the three elements of the "results test" as outlined in *Thornburg v. Gingles*: a racial bloc voting analysis is needed to determine whether the minority group is politically cohesive; and the analysis is required to determine if White voters are voting sufficiently as a bloc to usually defeat the candidates preferred by minority voters. The voting patterns of White and minority voters must be estimated using statistical techniques because direct information about the race of the voters is not, of course, available on the ballots cast.

To carry out an analysis of voting patterns by race, an aggregate level database must be constructed, usually employing election precincts as the units of observation. Information relating to the demographic composition and election results in these precincts is collected, combined, and statistically analyzed to determine if there is a relationship between the racial composition of the precincts and support for specific candidates across the precincts.

Standard Statistical Techniques Three standard statistical techniques have been developed over time to estimate vote choices by race: homogeneous precinct analysis, ecological regression, and ecological inference.[2] Two of these analytic procedures – homogeneous precinct analysis and ecological regression – were employed by the plaintiffs' expert in *Thornburg v. Gingles*, have the benefit of the Supreme Court's approval in that case, and have been used in most subsequent voting

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[2] For a detailed explanation of homogeneous precinct analysis and ecological regression see Bernard Grofman, Lisa Handley and Richard Niemi, *Minority Representation and the Quest for Voting Equality* (Cambridge University Press, 1992). See Gary King, *A Solution to the Ecological Inference Problem* (Princeton University Press, 1997) for a more detailed explanation of ecological inference.

3

rights cases. The third technique, ecological inference, was developed after *Gingles* was decided and was designed, in part, to address some of the disadvantages associated with ecological regression analysis. Ecological inference analysis has been introduced and accepted in numerous district court proceedings and is generally accepted as the most accurate method for estimating voting patterns by race.

Homogeneous precinct (HP) analysis is the simplest technique. It involves comparing the percentage of votes received by each of the candidates in precincts that are racially or ethnically homogeneous. The general practice is to label a precinct as homogeneous if at least 90 percent of the voters or voting age population is composed of a single race. In fact, the homogeneous results reported are not estimates – they are the actual precinct results. However, most voters in Mississippi do not reside in homogeneous precincts and voters who do reside in homogeneous precincts may not be representative of voters who live in more racially diverse precincts. For this reason, I refer to these percentages as estimates.

The second statistical technique employed, *ecological regression* (ER), uses information from all precincts, not simply the homogeneous ones, to derive estimates of the voting behavior of minorities and Whites. If there is a strong linear relationship across precincts between the percentage of minorities (or Whites) and the percentage of votes cast for a given candidate, this relationship can be used to estimate the percentage of minority (or White) voters supporting the candidate.

The third technique, *ecological inference* (EI), was developed by Professor Gary King. This approach also uses information from all precincts but, unlike ecological regression, it does not rely on an assumption of linearity. Instead, it incorporates maximum likelihood statistics to produce estimates of voting patterns by race. In addition, it utilizes the method of bounds, which uses more of the available information from the precinct returns than ecological regression.[3] Unlike ecological regression, which can produce percentage estimates of less than 0 or more than 100 percent, ecological inference was designed to produce only estimates that fall within the

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[3] The following is an example of how the method of bounds works: if a given precinct has 100 voters, of whom 75 are Black and 25 are White, and the Black candidate received 80 votes, then at least 55 of the Black voters voted for the Black candidate and at most all 75 did. (The method of bounds is less useful for calculating estimates for White voters, as anywhere between five of the White voters and all of the White voters could have voted for the candidate.)

4

possible limits. However, EI does not guarantee that the estimates for all of the candidates add to 100 percent for each of the racial groups examined.

In conducting my analysis of voting patterns by race in recent elections in Mississippi, I also used a more recently developed version of ecological inference, which I have labeled "EI RxC" in the summary tables found in the Appendices.[4] Unlike the other methods discussed, this approach permits the analysis of more than two groups simultaneously. More importantly, from the perspective of the data available to conduct the analysis in Mississippi, the analysis can be used to take into account the differences in the turnout rates of the age-eligible Black and White population. In the summary tables in the appendices, I report estimates for the two groups of interest, Black voters and White voters, but all voters (as well as non-voters) are taken into account in the statistical analyses. Another advantage of EI RxC is that it produces generally accepted confidence intervals for each of the reported estimates.[5] I include the 95% confidence intervals for each of the EI RxC estimates listed in the appendices.

Database To analyze voting patterns by race using aggregate level information, a database that combines election results with demographic information is required. This database is almost always constructed using election precincts as the unit of analysis. The demographic composition of the precincts is based on voter registration or turnout by race if this information is available; if it is not, then voting age population or citizen voting age population is used. Mississippi does not collect voter registration data by race so voting age population by race, included in the database for all of the precincts in each election cycle examined, is used to produce estimates.

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[4] A Bayesian implementation procedure for considering more than two groups simultaneously when producing EI estimates was outlined by Ori Rosen, Wenxin Jiang, Gary King, and Martin Tanner in "Bayesian and Frequentist Inference for Ecological Inference: The RxC Case, *Statistical Neerlandica*, 55:134 (2001). Advances in computer technology allowed Lau and colleagues to create a software module (eiPack) that could carry out this procedure. This is the module I used to produce the EI RxC estimates I report. See Olivia Lau, Ryan Moore, and Michael Kelleran, "eiPack: Ecological Inference and Higher-Dimension Data Management," *R News*, volume 7, no. 2 (October 2007).

[5] The 95% confidence intervals reported in the summary tables indicate that 95% of the simulated estimates produced via EI RxC fell within the range specified. The larger the confidence interval, the more uncertainty associated with the reported estimate. Factors that influence the size of the confidence interval include the number of precincts and the variation in the percentage of Black and White voters across the precincts in the area under investigation.

5

The 2010 and 2020 total and voting age population by race/ethnicity by census block,[6] the 2010 and 2020 census block shapefiles, and the 2010 and 2020 VTD block assignment files were obtained from the U.S. Census FTP portal.[7] In addition, the congressional, state senate, and state house block assignment files were obtained from the U.S. Census website.

The precinct election results were obtained from the Mississippi Secretary of State's website. However, because the precinct returns were supplied by each county individually and only in the form of PDFs, electronic precinct-level election results were obtained from OpenElections, when possible. When it was not possible, the precinct-level data was entered manually from the PDFs.

Geographic areas analyzed I examined voting patterns in seven areas of Mississippi where the Illustrative Plans create more majority Black voting age population (BVAP)[8] districts than the Adopted State Senate and House Plans.[9] The seven areas of interest, the set of Illustrative and Adopted districts being compared in each of these areas, and the counties encompassed by these areas,[10] are listed in Table 1. As my analysis demonstrates, these additional majority BVAP districts offer Black voters with opportunities to elect their candidates of choice that the Adopted Plans fail to provide.[11]

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[6] The population by race for intercensal years was estimated by calculating the annual rate of population change at the block level between 2010 and 2020 and adding the appropriate population to each block given the election year being analyzed.

[7] In addition to the VTD shapefiles, precinct shapefiles for 2020, 2019, 2018, and 2016 were utilized. These were obtained from the Voting and Elections Science Team (VEST).

[8] BVAP has been calculated by counting all persons who are 18 or older who checked "Black or African American" on their census form. This includes persons who are single-race Black, or any part Black (i.e., persons of two or more races who indicate "Black" as one of the races), including those who marked both Hispanic and Black.

[9] The 2022 Adopted Plans create 15 majority BVAP state senate districts and 42 majority BVAP state house districts. The Illustrative Plans create 19 majority BVAP state senate districts and 45 majority BVAP state house districts. The seven areas of interest encompass the four additional majority BVAP state senate districts and the three additional majority BVAP state house districts offered by the Illustrative Plans.

[10] All counties that overlapped any of the Adopted or Illustrative districts being compared in the area of interest were included in the analysis of voting patterns by race.

[11] I have used the approach of creating specific geographic areas of interest to evaluate voting patterns and the opportunities for Black voters to elect their candidates of choice in other recent redistricting cases, and my analysis was relied upon and accepted by the Court. *See Alpha Phi Alpha Fraternity, Inc. v.*

6

Table 1: Mississippi Areas of Interest Analyzed

Area of Interest	Illustrative Districts	Adopted Districts	Counties
State Senate Districts			
Area of Interest #1 North West and North Central	1 2 11 15 19	1 2 10 11 19	Coahoma, De Soto, Lafayette, Marshall, Panola, Quitman, Tate, Tunica, Union
Area of Interest #2 Greater Golden Triangle	7 16 17 18	7 15 16 17	Chickasaw, Choctaw, Clay, Itawamba, Lee, Lowndes, Monroe, Montgomery, Noxubee, Oktibbeha, Webster, Winston
Area of Interest #3 South Central	35 37 39	35 37 39	Adams, Amite, Claiborne, Copiah, Franklin, Hinds, Jefferson, Jefferson Davis, Lawrence, Lincoln, Pike, Simpson, Walthall
Area of Interest #4 South East	9 34 42 44	34 42 44 45	Clarke, Forrest, Greene, Jasper, Jones, Lamar, Perry, Wayne
State House Districts			
Area of Interest #5 Western Jackson	56 63 70	56 63 70	Hinds, Madison
Area of Interest #6 Golden Triangle	16 17 22 36	16 17 22 36	Chickasaw, Clay, Lee, Lowndes, Monroe, Oktibbeha, Pontotoc

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Raffensperger, No. 1:21-cv-05337-SCJ, 587 F. Supp. 3d 1222 (N.D. Ga. Feb. 28, 2022); *Robinson v. Ardoin*, No. 3:22-cv-00211-SDD-SDJ, 605 F.Supp.3d 759 (M.D. La. June 6, 2022).

7

Area of Interest	Illustrative Districts	Adopted Districts	Counties
Area of Interest #7 East Central	80 81 82 84 89	80 81 82 84 89	Clarke, Jasper, Jones, Lauderdale, Newton

Elections analyzed I analyzed a large set of statewide and state legislative general and general runoff election contests in the seven areas of interest. I also attempted to analyze recent Democratic primaries that included both Black and White candidates in the seven areas of interest, but this proved to be a challenge statistically (see discussion below). Finally, I analyzed recent nonpartisan judicial elections that included both Black and White candidates.

Statewide general election contests that included Black candidates I analyzed all statewide general and general runoff election contests that included Black candidates since 2011 in the seven areas of interest.[12] The following is a list of these 11 election contests, [13] plus the 2020 presidential race in which the presidential candidate, Joseph Biden, was White but his running mate (Kamala Harris) was a Black candidate:

Election	Office	Black Candidate
2020 General	U.S. President	Kamala Harris (Vice President)
	U.S. Senate	Mike Espy
2019 General	Secretary of State	Johnny DuPree
	Attorney General	Jennifer Riley Collins
	State Treasurer	Addie Lee Green
	Commissioner of Insurance	Robert Amos

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[12] Courts consider election contests that include minority candidates more probative than contests that include only White candidates for determining if voting is racially polarized. This is because it is not sufficient for minority voters to be able to elect their candidates of choice only if these candidates are White. On the other hand, it is important to recognize that not all minority candidates are the preferred candidates of minority voters.

[13] There were no statewide general elections in 2021 or 2022.

8

Election	Office	Black Candidate
2018 General	U.S. Senate Special Election	Mike Espy
2018 General Runoff	U.S. Senate Special Election	Mike Espy
2015 General	Governor	Robert Gray
	Secretary of State	Charles Graham
2012 General	U.S. President	Barack Obama
2011 General	Governor	Johnny DuPree

Recent statewide election contests that did not include Black candidates In addition to these 12 contests, I analyzed the five statewide elections between 2016 and 2020 that did not include Black candidates. The following is a list of these additional election contests:

Election	Office
2019 General	Governor
	Lieutenant Governor
	Commissioner of Agriculture
2018 General	U.S. Senate
2016 General	U.S. President

State legislative election contests I analyzed recent state legislative general elections that included both Black and White candidates in the seven areas of interest. The courts have considered elections for the office at issue – often referred to as endogenous elections – to be particularly probative. However, no state legislative general elections have been conducted in the newly adopted state legislative districts. I therefore analyzed 2015 and 2019 state legislative election contests in state legislative districts under the previous (2012) state house and state senate plans that were located within the seven areas of interest. More specifically, a state legislative contest was analyzed if (1) the state house or state senate district was wholly contained within any areas of interest or overlapped with any of Illustrative or Adopted districts being compared in the area, and (2) the contest included

9

at least one Black and one White candidate. In total, 19 recent state legislative election contests were analyzed: 13 state senate contests and six state house contests.

Statewide Democratic primaries In addition to 17 statewide general and runoff elections, and 19 state legislative general elections, I also attempted to analyze eight recent (2011-2020) statewide Democratic primaries, including a primary runoff, that included both Black and White candidates. Republican primaries were not examined because the overwhelming majority of Black voters who participate in primaries cast their ballots in Democratic rather than Republican primaries. As a consequence, Democratic primaries are far more probative than Republican primaries in ascertaining the candidates preferred by Black voters.[14] The list of Democratic primaries examined are as follows:

Democratic Primary	Office	Black Candidate(s)
2019 Primary	Governor	Velesha Williams
		Robert Shuler Smith
2018 Primary	U.S. Senate	Omeria Scott
2015 Primary	Governor	Robert Gray
		Valeria Smartt Short
2015 Primary	Lieutenant Governor	Jelani Barr
2014 Primary	U.S. Senate	Bill Marcy
2012 Primary	U.S. Senate	Will Oatis
2011 Primary	Governor	Johnny DuPree
2011 Primary Runoff	Governor	Johnny DuPree

Producing reliable estimates of White voter behavior in the Democratic primaries at the level of the seven areas of interest proved impossible – the very wide confidence intervals indicated that

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[14] In addition, producing reliable estimates for Black voters in Republican primaries would not have been possible.

the estimates were simply not reliable. [15] As a consequence, I have reported estimates for the eight Democratic primaries listed above only at the statewide level.

In addition to analyzing election contests for statewide and state legislative office, I was asked by plaintiffs' lawyers to examine recent nonpartisan judicial contests that included Black and White candidates. Three such contests were identified as applicable: Justice for the Mississippi Supreme Court, Central District, Position 1 in 2020 and 2012; and Justice for the Mississippi Supreme Court, Southern District, Position 2 in 2016.

IV. Voting is Racially Polarized in the Seven Areas of Mississippi Analyzed

General election contests that included Black candidates In all 11 of the general election and general runoff contests I analyzed that included a Black candidate, Black voters were cohesive in supporting their preferred candidates and White voters bloc voted against the candidates preferred by Black voters. In other words, in all 11 of the general election contests that included a Black candidate, in all seven of the areas studied, voting was consistently and starkly racially polarized.[16] The results of my analysis of statewide general and runoff elections by area of interest can be found in Appendices A1-A7, with a separate appendix for each area of interest.

Overall, the average percentage of Black voters who supported their preferred candidate across the seven areas is 94.3%. The average percentage of White vote for these Black-preferred candidates across the seven areas is only 6.9%. The highest average White support for any of the Black candidates competing in these contests is 10.5% – this was for Mike Espy in his bid for the U.S. Senate in 2020. The percentage of White support for the candidates preferred by Black voters varies slightly across the seven areas of interest but exceeds 10% in only one area: in Area of Interest 5, Western Jackson, the average White support for Black-preferred Black candidates is 14.0%.

General election contests that did not include Black candidates The five contests that I examined that did not include Black candidates were also racially polarized in all areas of the state

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[15] The wide confidence intervals are likely to be due to low White turnout (and a lack of sufficient variation in the percent White turnout across the precincts in the area) in the recent Democratic primaries examined in the seven areas of interest. However, because Mississippi does not collect and report race data in the voter files, this cannot be confirmed. (Statistical estimates suggest very low White turnout, but of course the turnout estimates are flawed in the same manner as the support estimates are flawed.)

[16] Although this assessment does not include the 2020 presidential election, this election was also starkly racially polarized in all seven areas of interest.

11

studied. However, the average percentage of White support for the Black-preferred White candidates is slightly higher than that for the Black-preferred Black candidates: 9.1% of the White voters crossed over to vote for White candidates of choice of Black voters (compared to 6.9% for the Black candidates preferred by Black voters). This was driven in large measure by support for Jim Hood in the 2019 gubernatorial general election contest – on average across the areas, 17.7% of White voters cast their votes for Hood.

State legislative contests with both Black and White candidates All 19 of the 2015 and 2019 state legislative elections that included both Black and White candidates were racially polarized. The estimates of Black and White support for the state legislative candidates in these contests can be found in Appendix B.[17] Black voters were cohesive in supporting Black candidates in these state legislative contests: on average, 83.3% of Black voters supported their preferred candidates. However, few White voters supported these candidates: Black-preferred Black candidates garnered, on average, 18.3% of the White vote. The Black candidates supported by Black voters won the legislative seats for which they competed only in majority Black districts.

Democratic primaries My conclusion that voting is racially polarized in the seven areas of interest in Mississippi rests on the results of my analysis of voting patterns in recent general and runoff elections – both the statewide and the endogenous (state legislative) elections. General elections are clearly the barrier to electing candidates preferred by Black voters to the state legislature – at least outside of districts that provide Black voters with an opportunity to elect their preferred candidates. However, because there is typically a two-stage election process in the United States, with a primary election required to produce the party nominee for the general election, I analyzed eight statewide Democratic primaries and Democratic runoffs that included Black candidates between 2011 and 2020. As noted above, generating reliable statistical estimates in the seven areas proved impossible and I have reported only statewide estimates. These estimates are found in Appendix C.

The 2011 gubernatorial primary and primary runoff for governor were both racially polarized. Black voters supported the Black candidate, Johnny DuPree, and White voters supported Bill Luckett in both contests. DuPree won the runoff and proceeded to the general election, in which

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[17] Two of the 19 state legislative districts analyzed had a very limited number of precincts and a BVAP of between 20 and 30%, therefore the EI estimates for Black voters had very wide confidence intervals.

12

he was defeated by the White-preferred White candidate. In the 2018 primary for U.S. Senate, in which six candidates competed for the nomination, Howard Sherman (White) was the plurality choice of Black voters; the second choice of Black voters was Black candidate Omeria Scott. David Baria (White) was the plurality choice of White voters. Sherman and Baria went on to compete in a primary runoff which Baria won.[18] In four of the other five contests examined, Black and White voters supported the same candidate – a White candidate: Jim Hood in the 2019 gubernatorial primary, Tim Johnson in his 2015 race for lieutenant governor, Travis Childers in the 2014 primary for U.S. Senate, and Albert Gore Jr. in the 2012 U.S. Senate primary. All four of these candidates won the Democratic nomination and all four lost the subsequent general election. The 2015 gubernatorial primary was the only primary analyzed in which Black and White voters both supported a Black candidate: Robert Gray. Gray won the primary and was defeated in the general election.

Although some of the Democratic primary contests analyzed were racially polarized, because the majority of White voters who cast ballots in primaries choose to vote in Republican primaries, candidates supported by Black voters usually managed to win the Democratic nomination. The barrier to elected office for candidates preferred by Black voters is usually not the Democratic primary – it is the general election. Without a substantial Black population in the district, Black voters are extremely unlikely to be able to elect their preferred candidates to serve in the Mississippi state legislature in the seven areas of interest I studied for this project. This is the result of the consistently extremely low White voter support for the candidates preferred by Black voters.

Judicial election contests Because defendants in vote dilution challenges often argue that a clear pattern of polarization is a consequence of partisan rather than racial polarization, I was asked to examine the three recent nonpartisan Mississippi judicial contests that included both Black and White candidates. The results of this analysis can be found in Appendix D. The two contests for Position 1 in the Central District of the Supreme Court were sharply racially polarized, with over 90% of the Black voters supporting the Black candidate and over 90% of the White voters supporting the White candidate in both instances. The third contest analyzed, Position 2 in the Southern District, was not polarized: White voters strongly favored the White candidate, Dawn Beam, as did a slight majority of Black voters.

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[18] I did not analyze the 2018 Democratic primary runoff for U.S. Senate as this contest did not include a Black candidate.

13

The polarization found in two-thirds of these judicial contests cannot be explained by party simply because the election contests were nonpartisan.

V. The State Senate and State House Plans Adopted in 2022 Dilute Black Voting Strength

Because voting is consistently and starkly racially polarized in the seven Mississippi areas of interest I examined, Black voters should be offered opportunities to elect their candidates of choice in these areas. The Illustrative Plans provide more opportunities for Black voters to participate in the electoral process and elect their preferred candidates than the Adopted Plans in each of these areas. I have concluded this on the basis of a district-specific, functional analysis of the two sets of plans in the seven areas of interest. To make this determination, I relied not only upon the demographic composition of the districts but on the voting patterns in the area and whether the candidates preferred by Black voters are likely to usually win in the districts—this is what is meant by "functional."

Because there have been no general election results indicating who will ultimately represent the newly adopted state legislative districts, and because the illustrative districts are only for demonstrative purposes (and no state legislative elections will be conducted within their boundaries), an alternative method must be used to assess the opportunity of Black voters to elect their preferred candidates in these districts. Election results recompiled to conform to the boundaries of the proposed districts can be used to ascertain whether the candidates preferred by Black voters (as determined by the racial bloc voting analysis) would win in these districts. The best election contests to use for a functional analysis are recent elections that included a Black candidate supported by Black voters, but not by White voters. In this case, all 11 of the statewide election contests that I analyzed that included Black candidates meet these criteria.[19]

To perform this analysis, precinct election returns from these 11 general election contests were disaggregated down to the level of the census block.[20] The block-level election data was then reaggregated up, or recompiled, to conform to the boundaries of the illustrative and adopted districts

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[19] State legislative contests cannot be used for the purpose of recompiling election results because these elections occurred in districts that do not encompass an area large enough to cover the newly adopted or illustrative districts in their entirety.

[20] The disaggregation of each candidate's votes was done on the basis of the proportion of the voting age population (VAP) that each census block comprised of the total VAP of the precinct.

14

of interest. I then calculated an "Effectiveness Score," which is simply the average vote share received by the 11 Black-preferred Black candidates across the 11 contests in each of the individual districts. This score allows me to determine how Black-preferred Black candidates are likely to fare in the proposed districts. A score of less than .5 means that the average vote share received by the 11 Black-preferred Black candidates is less than 50% and the district is not likely to provide Black voters with an opportunity to elect their candidates of choice to the state legislature.

Assessment of seven geographic areas of interest This section provides a brief description of the voting patterns and opportunities to elect under the Illustrative versus Adopted Plans in each of the seven areas.[21] For each area there is a comparison table that lists the illustrative and adopted districts being compared, the BVAP of each of these districts, and the Effectiveness Scores of these districts. Maps of the seven areas showing the relevant illustrative and adopted districts are also provided. The districts that offer Black voters an opportunity to elect their candidates of choice to the state legislature are bolded in each of the comparison tables.

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[21] There are an equal number of majority BVAP districts in the Adopted and Illustrative Plans that have not been included in these areas of interest: 11 state senate districts and 36 state house districts. All of these districts in both sets of plans have Effectiveness Scores of at least .5. There is only one district with a BVAP less than 50% that has an Effectiveness Score of at least .5. This is State Senate District 25 in the Illustrative Plan, with a BVAP of 48.8% and an Effectiveness Score of .541. (This is a majority minority district with a non-Hispanic White VAP of 45.3%.)

[22] This amended report was produced because of a slight discrepancy between the illustrative Mississippi state house plan created by Mr. Bill Cooper and the block equivalency file I used for my original Expert Report dated August 28, 2023 ("Expert Report of Dr. Lisa Handley"). None of my opinions expressed in my original Expert Report have changed as a consequence of these modifications.

15

Area of Interest 1: North West and North Central Mississippi Voting is racially polarized in this area. In all 17 of the statewide elections analyzed, Black and White voters supported different candidates. The Adopted State Senate Plan provides one effective majority BVAP district in this area (State Senate District 11). The Illustrative Plan offers two majority Black BVAP districts: District 11, which has a BVAP of 59.6% and an Effectiveness Score of .550, and District 2, which has a BVAP of 50.9% and an Effectiveness Score of .529. Both of these districts fall within my definition of an effective district (that is, having an Effectiveness Score of .5 or above, as described above).

Comparison Table 1: Area of Interest #1					
Illustrative State Senate District	Percent BVAP	Effectiveness Score	Adopted State Senate District	Percent BVAP	Effectiveness Score
1	32.9%	.334	1	25.4%	.280
2	**50.9%**	**.529**	2	32.9%	.336
11	**59.6%**	**.550**	10	33.5%	.411
15	20.4%	.271	**11**	**62.4%**	**.582**
19	22.7%	.273	19	25.4%	.290
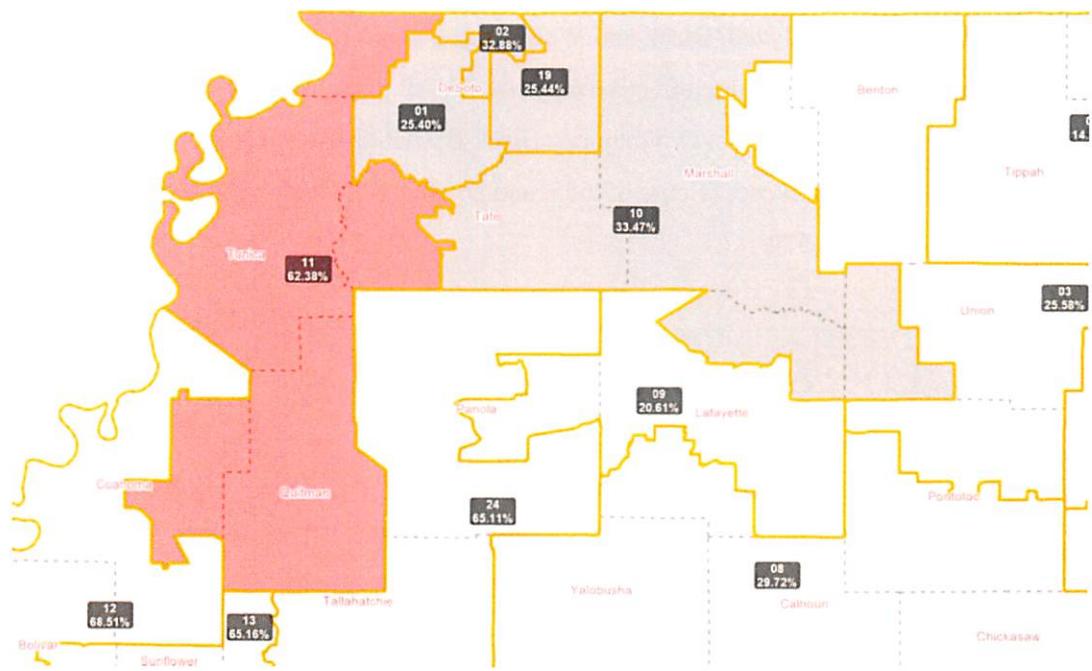
Figure 1 - Adopted State Senate Districts, Area of Interest #1

Figure 2 – Illustrative State Senate Districts, Area of Interest #1

17

Area of Interest 2: Greater Golden Triangle Voting is racially polarized in this area. In all 17 of the statewide elections analyzed, Black and White voters supported different candidates. The Adopted State Senate Plan provides one effective majority BVAP district in this area (State Senate District 16). The Illustrative Plan offers two majority Black BVAP districts: District 16, which has a BVAP of 53.7% and an Effectiveness Score of .655, and District 17, which has a BVAP of 54.7% and an Effectiveness Score of .579.

Comparison Table 2: Area of Interest #2					
Illustrative State Senate District	**Percent BVAP**	**Effectiveness Score**	**Adopted State Senate District**	**Percent BVAP**	**Effectiveness Score**
7	17.5%	.214	7	40.1%	.439
16	**53.7%**	**.655**	15	26.1%	.344
17	**54.7%**	**.579**	**16**	**63.1%**	**.663**
18	34.6%	.396	17	29.5%	.331

18
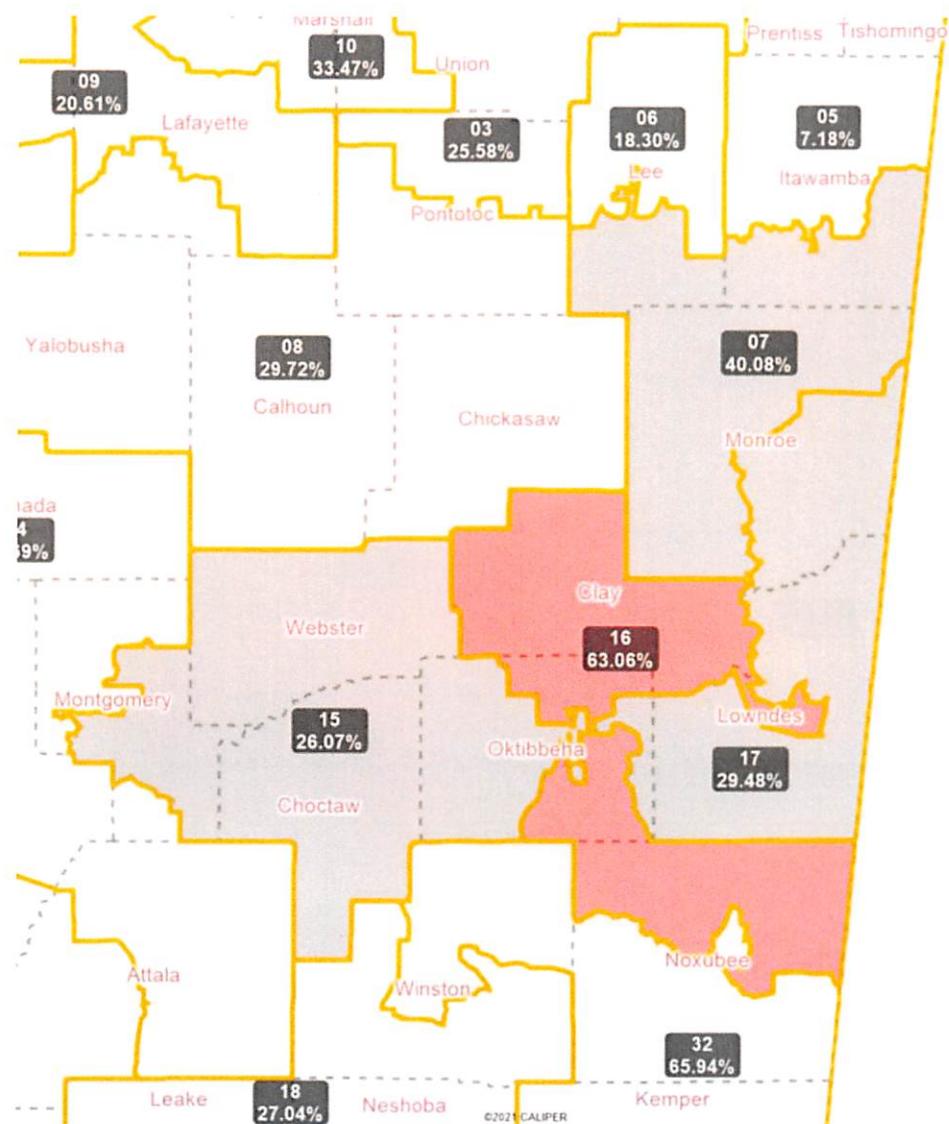
Figure 3 - Adopted State Senate Districts, Area of Interest #2
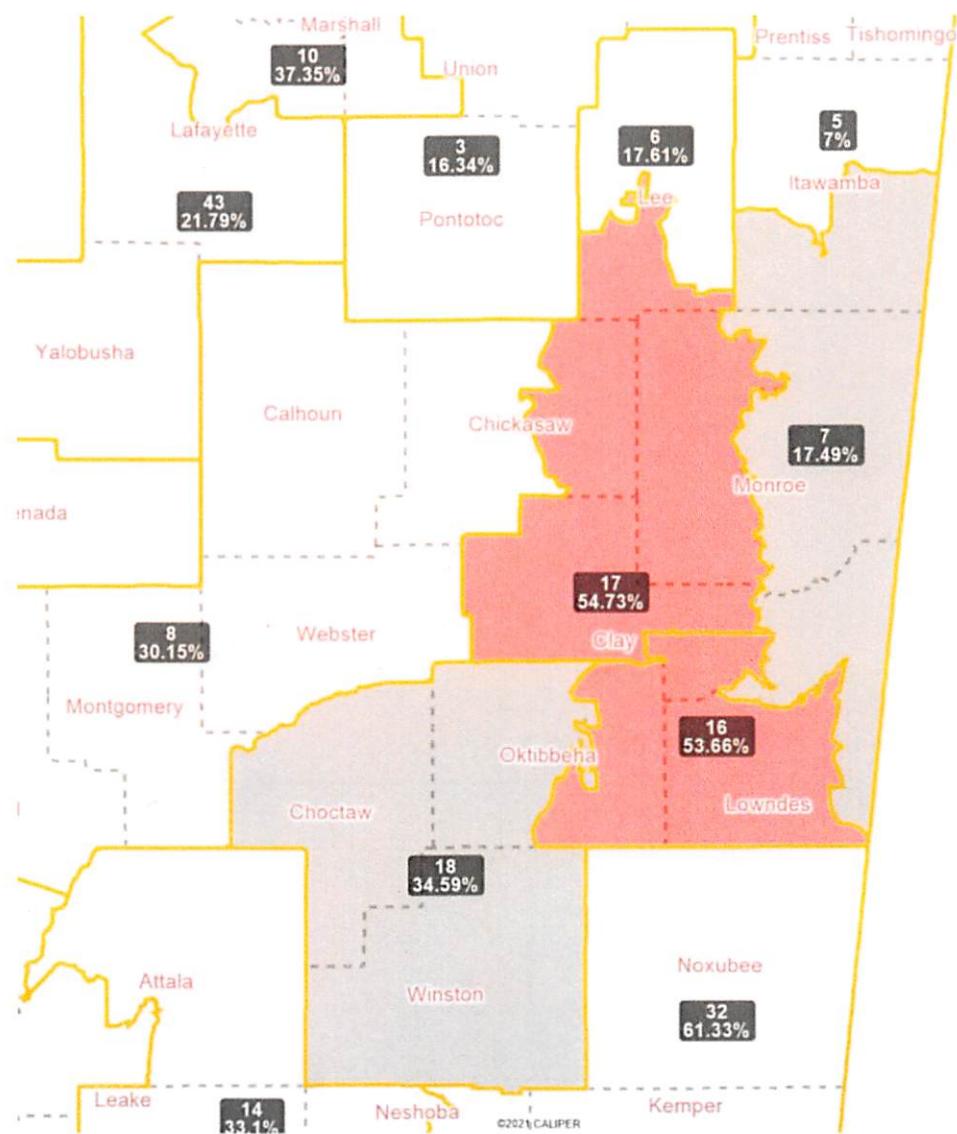
Figure 4 - Illustrative State Senate Districts, Area of Interest #2

Area of Interest 3: South Central Mississippi Voting is racially polarized in this area. In all 17 of the statewide elections analyzed, Black and White voters supported different candidates. The Adopted State Senate Plan provides one effective majority BVAP district in this area (State Senate District 37). The Illustrative Plan offers two majority Black BVAP districts: District 37, which has a BVAP of 55.7% and an Effectiveness Score of .551, and District 35, which has a BVAP of 52.1% and an Effectiveness Score of .527.

Comparison Table 3: Area of Interest #3					
Illustrative State Senate District	**Percent BVAP**	**Effectiveness Score**	**Adopted State Senate District**	**Percent BVAP**	**Effectiveness Score**
35	52.1%	.527	35	39.4%	.408
37	55.7%	.551	37	61.3%	.612
39	27.1%	.284	39	28.5%	.277

21
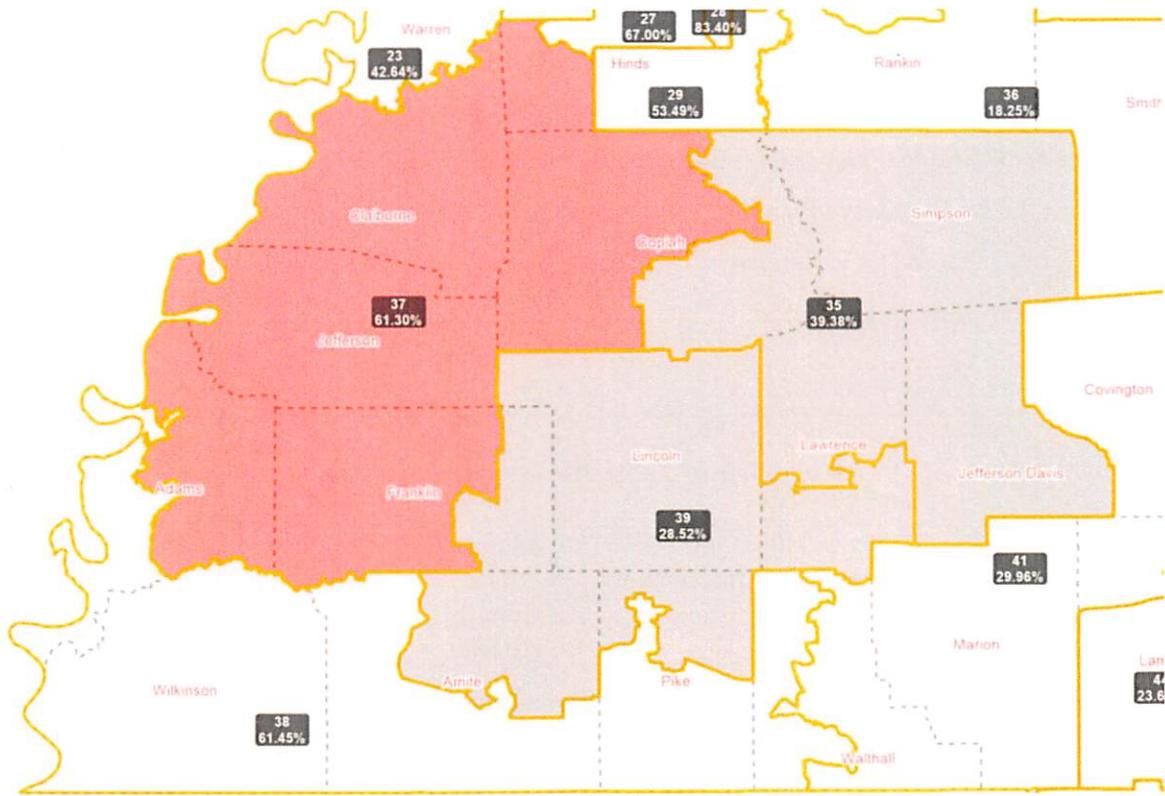
Figure 5 - Adopted State Senate Districts, Area of Interest #3
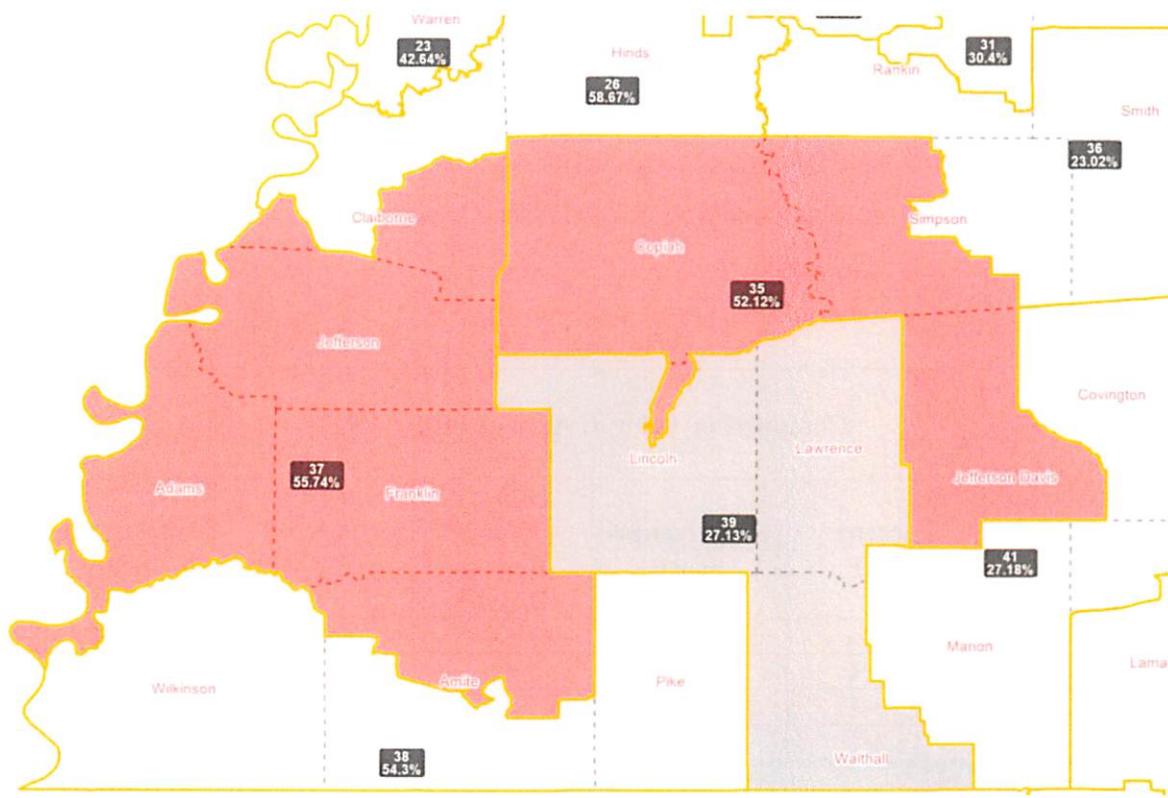
Figure 6 - Illustrative State Senate Districts, Area of Interest #3

Area of Interest 4: South East Mississippi Voting is racially polarized in this area. In all 17 of the statewide elections analyzed, Black and White voters supported different candidates. The Adopted State Senate Plan provides one effective majority BVAP district in this area (State Senate District 34). The Illustrative Plan offers two majority Black BVAP districts: District 34, which has a BVAP of 53.1% and an Effectiveness Score of .518, and District 9, which has a BVAP of 50.9% and an Effectiveness Score of .579.

Comparison Table 4: Area of Interest #4					
Illustrative State Senate District	Percent BVAP	Effectiveness Score	Adopted State Senate District	Percent BVAP	Effectiveness Score
9	51.0%	.583	34	56.5%	.572
34	53.1%	.518	42	16.6%	.165
42	13.3%	.165	44	23.6%	.236
44	15.3%	.198	45	25.4%	.303

24
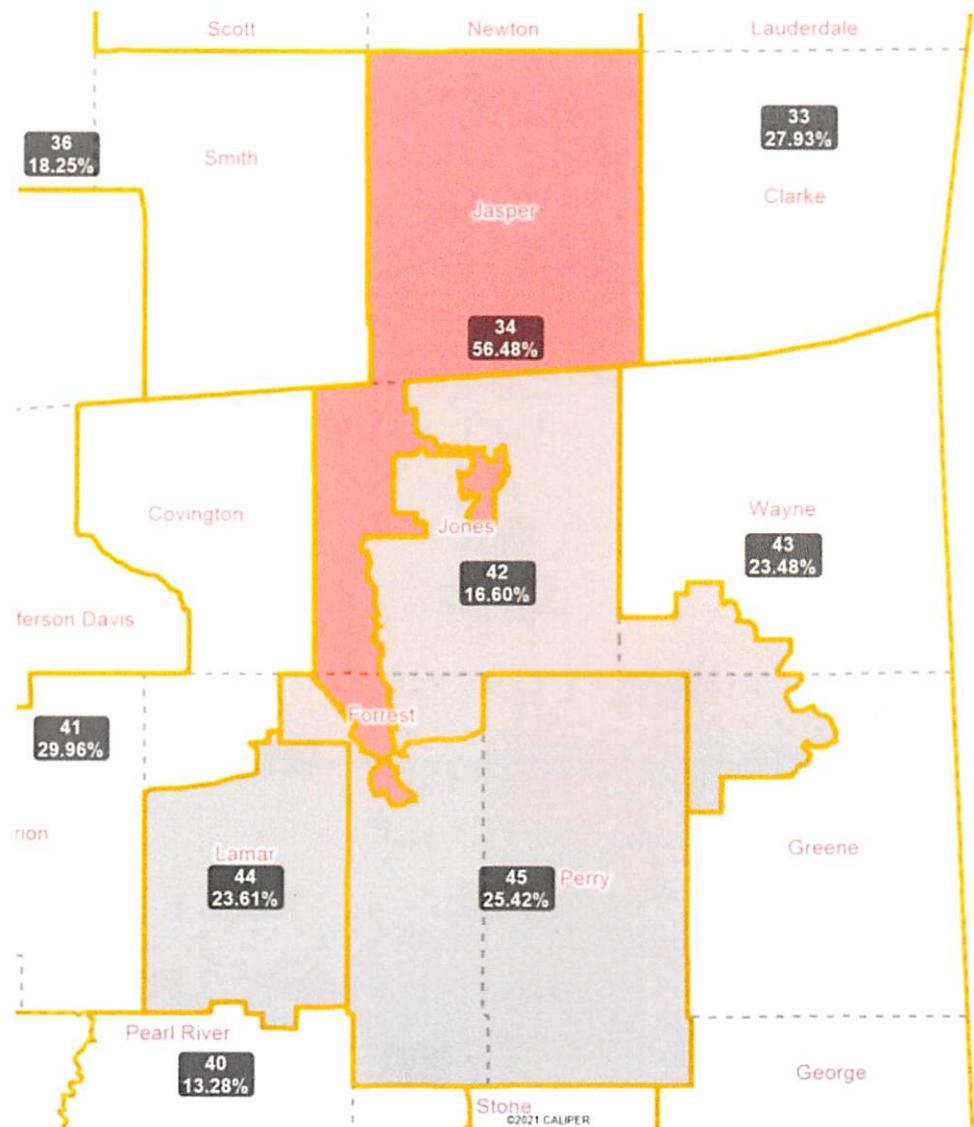
Figure 7 - Adopted State Senate Districts, Area of Interest #4
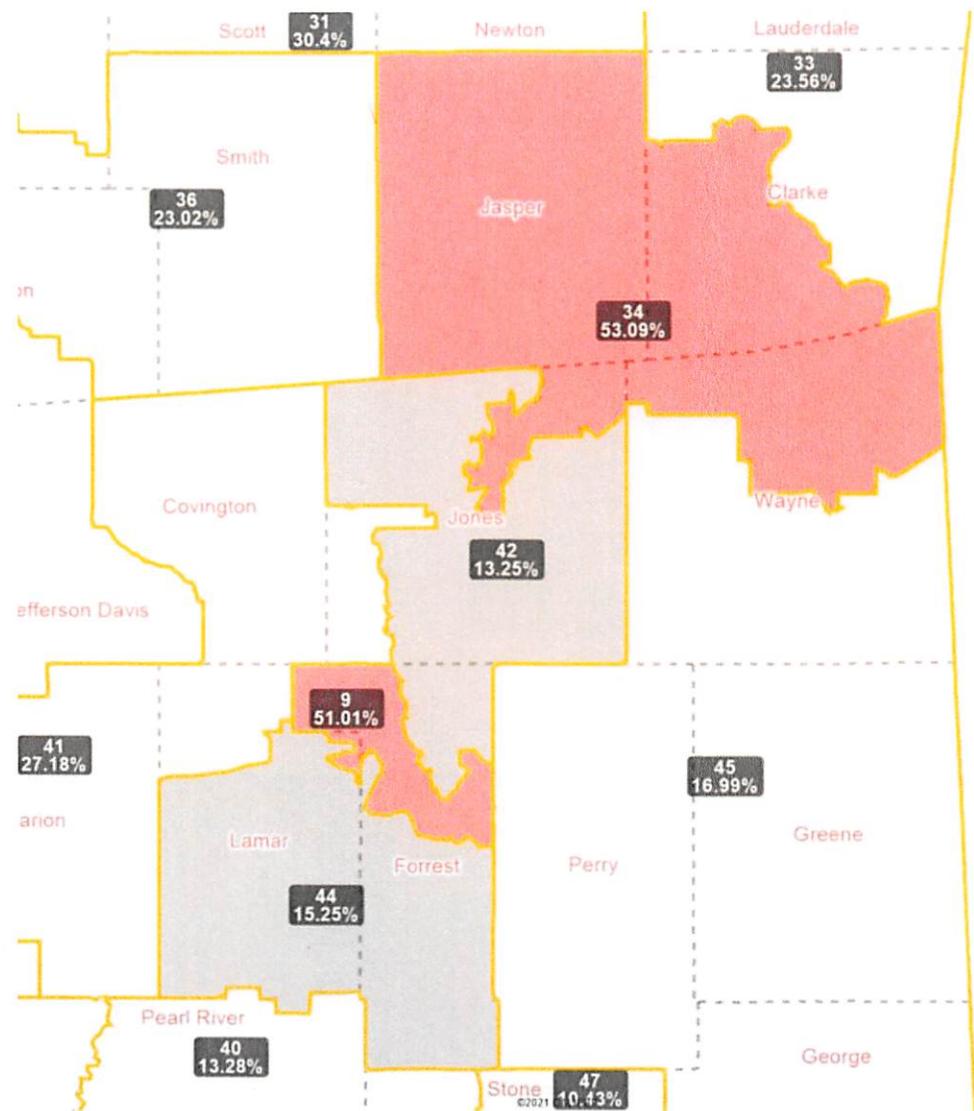
Figure 8 - Illustrative State Senate Districts, Area of Interest #4

Area of Interest 5: Western Jackson Voting is racially polarized in this area. In all 17 of the statewide elections analyzed, Black and White voters supported different candidates. The Adopted State House Plan provides two effective majority BVAP districts in this area (State House Districts 63 and 70). The Illustrative Plan offers three majority Black BVAP state house districts: District 63, which has a BVAP of 62.2% and an Effectiveness Score of .592, District 70, which has a BVAP of 58.8% and an Effectiveness Score of .607, and District 56, which has a BVAP of 59.0% and an Effectiveness Score of .631.

| Comparison Table 5: Area of Interest #5					
Illustrative State House District	Percent BVAP	Effectiveness Score	Adopted State House District	Percent BVAP	Effectiveness Score
56	59.0%	.631	56	23.0%	.348
63	62.2%	.592	63	58.9%	.559
70	58.8%	.607	70	83.2%	.828
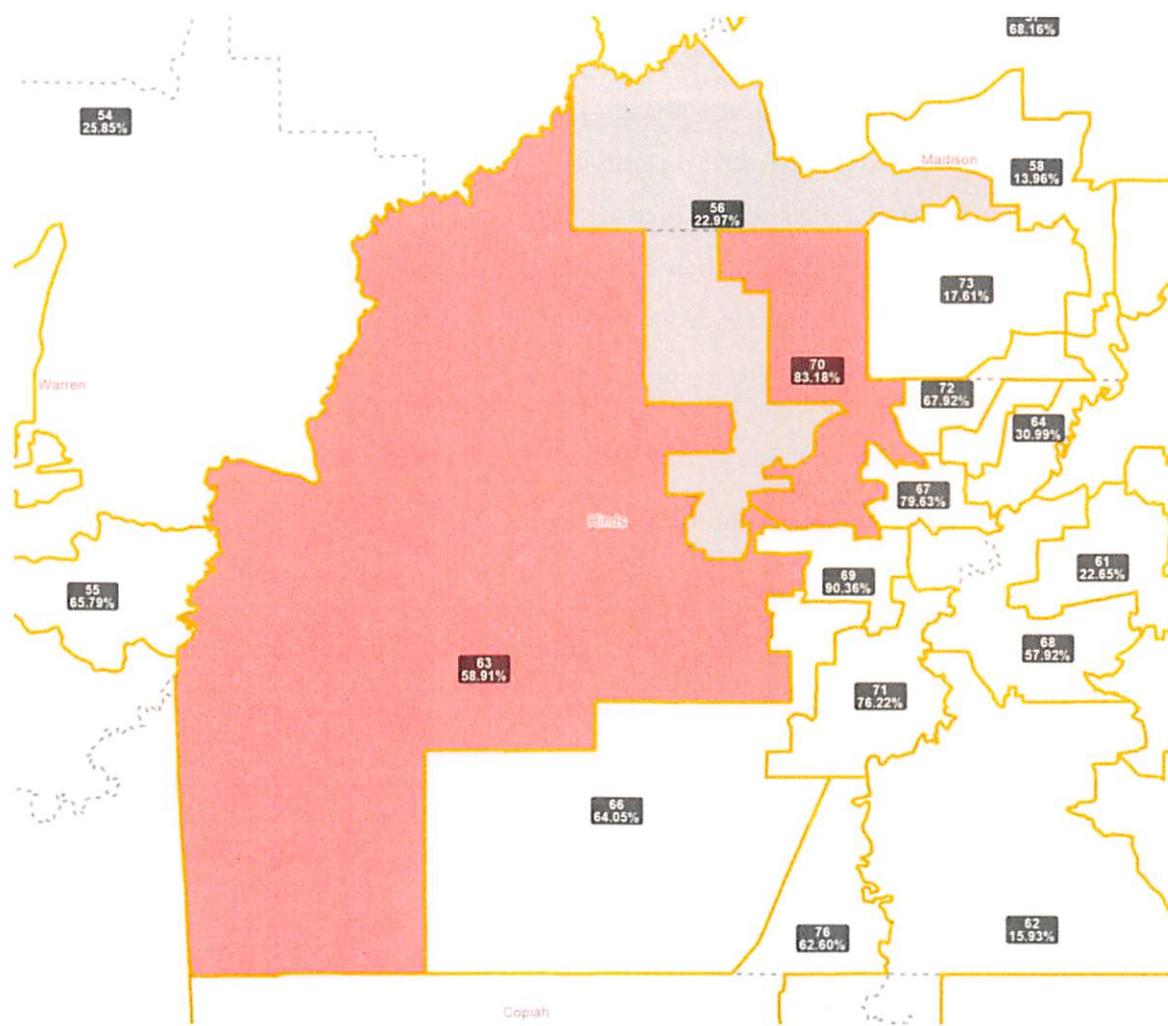
Figure 9 - Adopted State House Districts, Area of Interest #5
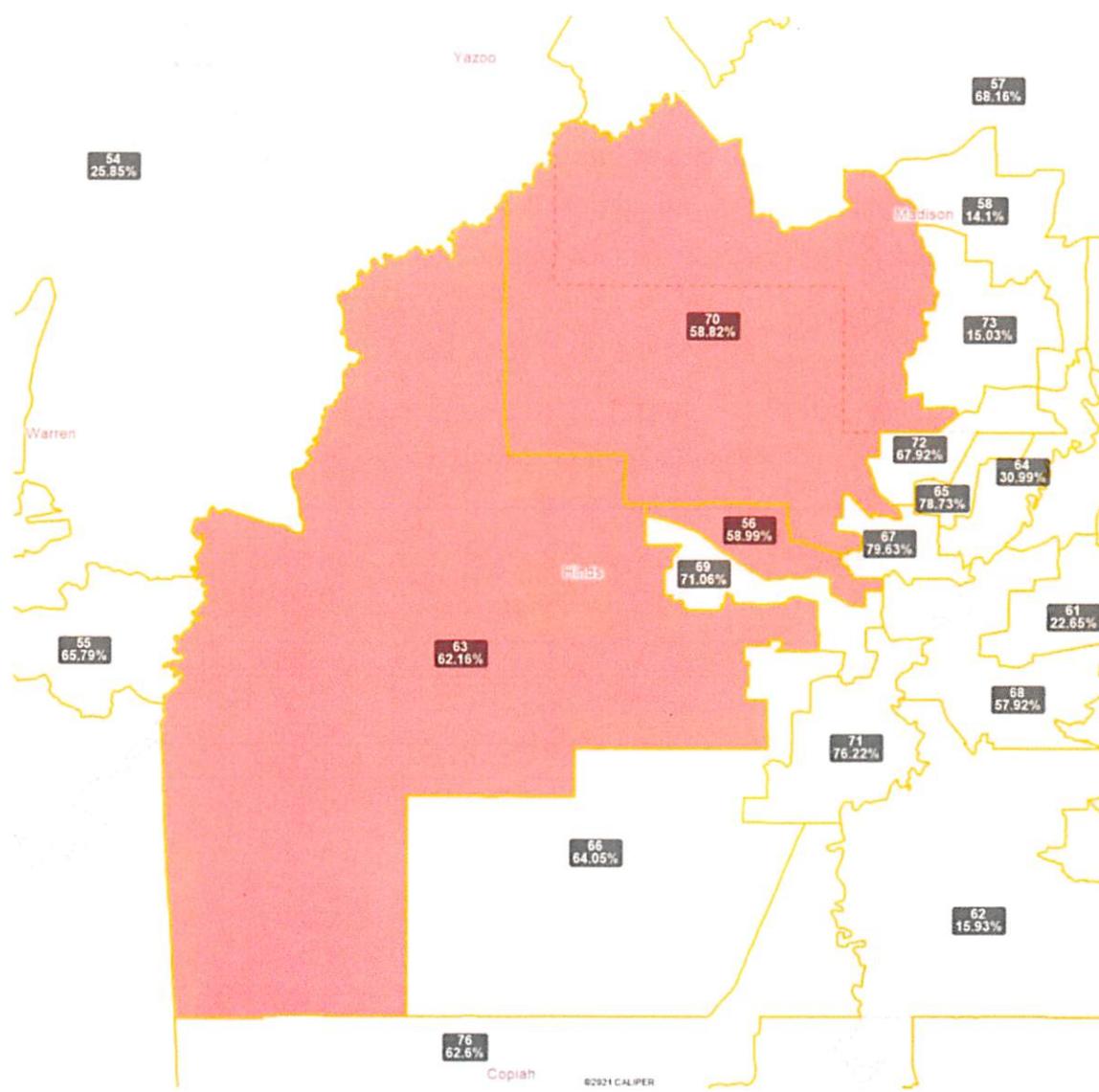
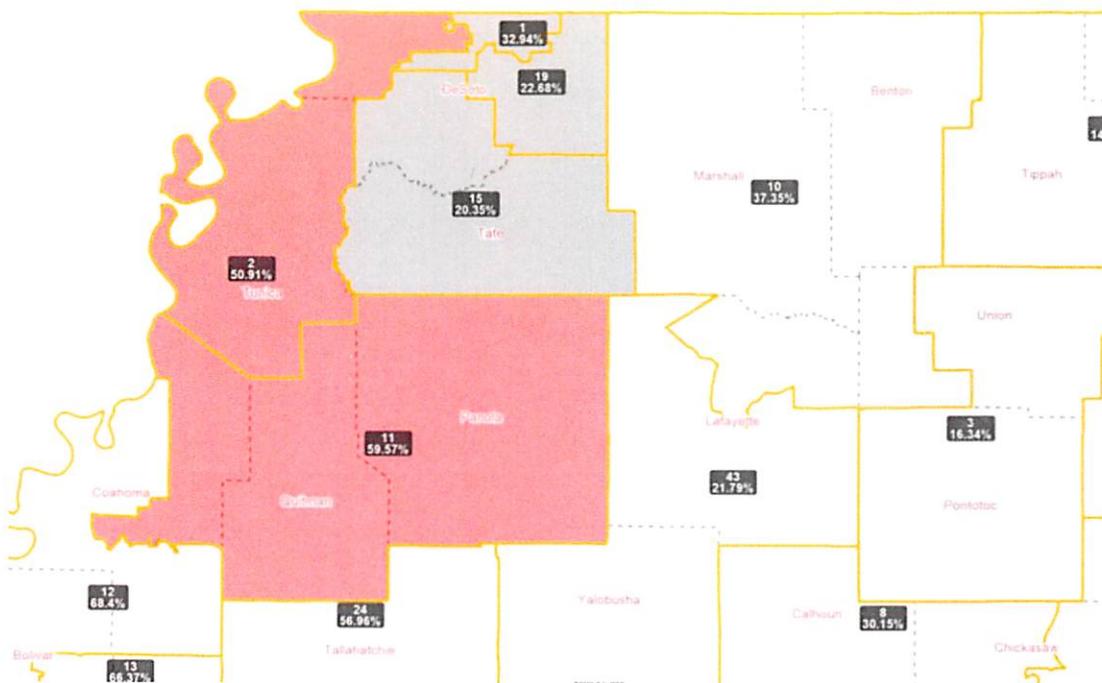**Figure 10 – Illustrative State House Districts, Area of Interest #5**

Area of Interest 6: Golden Triangle Voting is racially polarized in this area. In all 17 of the statewide elections analyzed, Black and White voters supported different candidates. The Adopted State House Plan provides two effective majority BVAP districts in this area (State House Districts 16 and 36). The Illustrative Plan offers three majority Black BVAP state house districts: District 16, which has a BVAP of 57.0% and an Effectiveness Score of .571, District 36, which has a BVAP of 56.2% and an Effectiveness Score of .581, and District 22, which has a BVAP of 55.4% and an Effectiveness Score of .573.

Comparison Table 6: Area of Interest #6					
Illustrative State House District	Percent BVAP	Effectiveness Score	Adopted State House District	Percent BVAP	Effectiveness Score
16	57.0%	.571	16	62.3%	.582
17	22.1%	.271	17	25.1%	.315
22	55.4%	.573	22	29.9%	.370
36	56.2%	.581	36	61.2%	.600

30
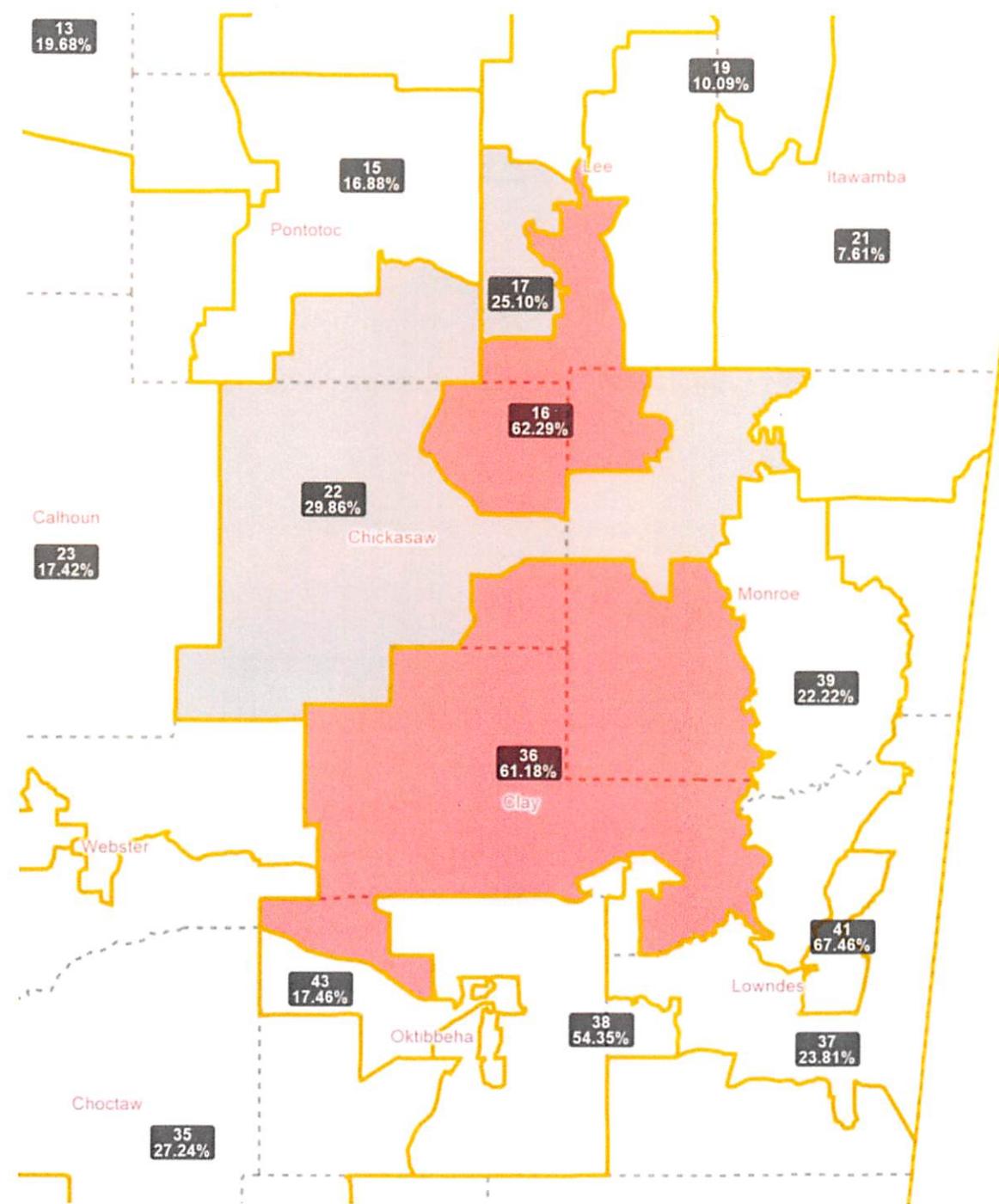
**Figure 11 - Adopted State House Districts, Area of Interest #6**

PTX-004-031
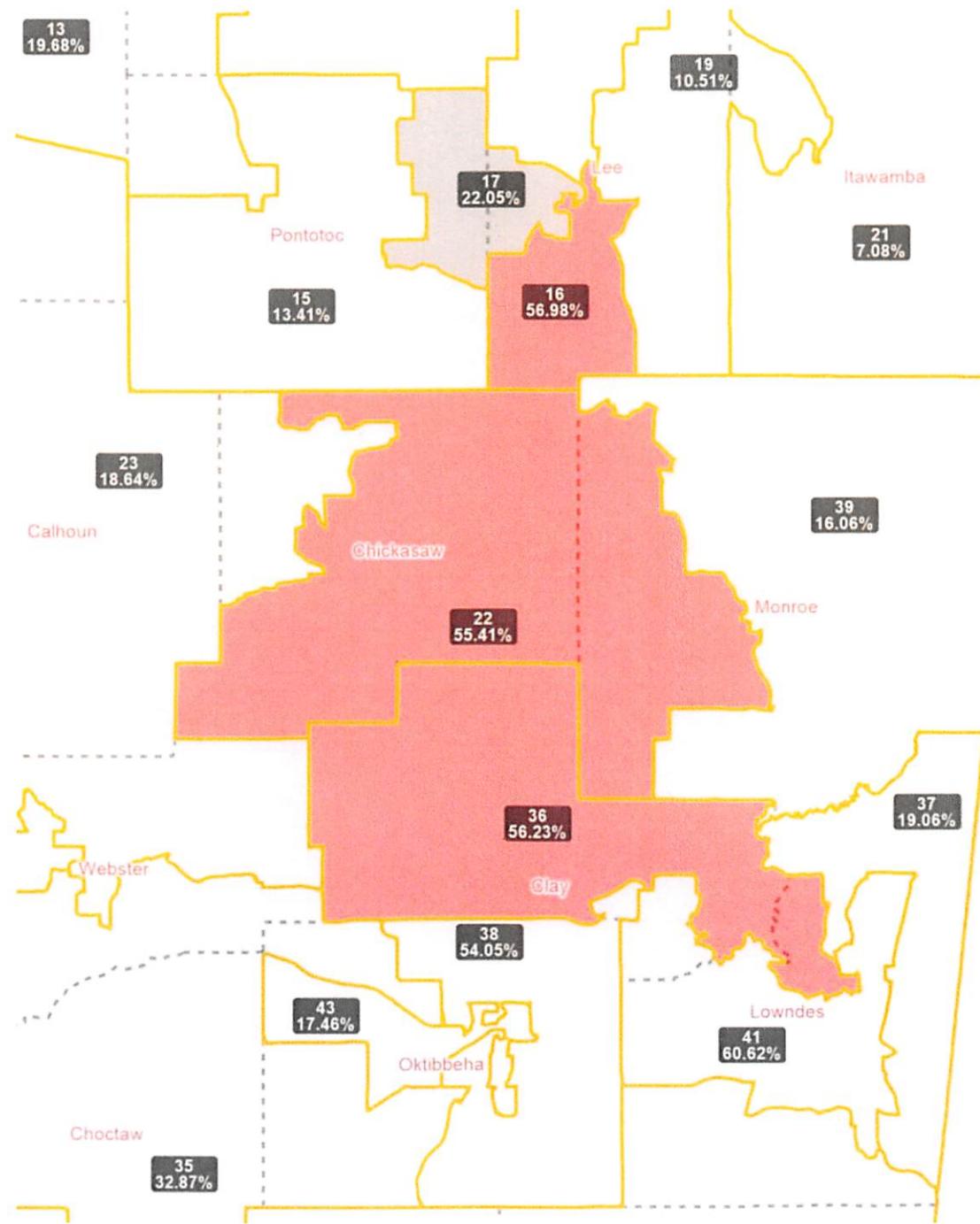
Figure 12 - Illustrative State House Districts, Area of Interest #6

Area of Interest 7: East Central Mississippi Voting is racially polarized in this area. In all 17 of the statewide elections analyzed, Black and White voters supported different candidates. The Adopted State House Plan provides two effective majority BVAP districts in this area (State House Districts 80 and 82). The Illustrative Plan offers three majority Black BVAP state house districts: District 80, which has a BVAP of 55.9% and an Effectiveness Score of .526, District 82, which has a BVAP of 72.4% and an Effectiveness Score of .663, and District 84, which has a BVAP of 53.1% and an Effectiveness Score of .524.

Comparison Table 7: Area of Interest #7					
Illustrative State House District	Percent BVAP	Effectiveness Score	Adopted State House District	Percent BVAP	Effectiveness Score
80	55.9%	.526	80	68.3%	.647
81	20.2%	.198	81	23.1%	.230
82	72.4%	.663	82	75.2%	.691
84	53.1%	.524	84	37.3%	.360
89	23.6%	.262	89	19.7%	.212
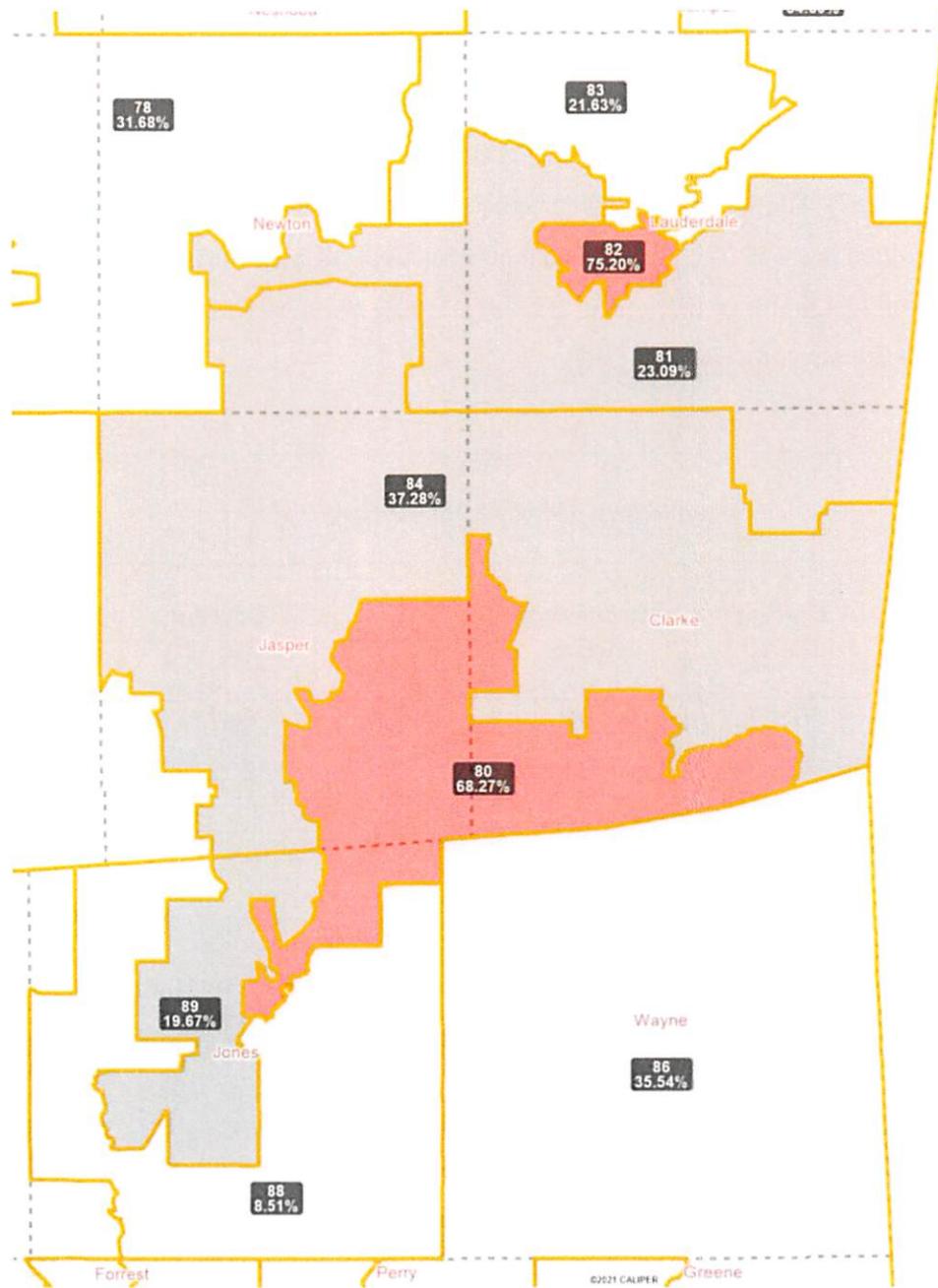
Figure 13 – Adopted State House Districts, Area of Interest #7
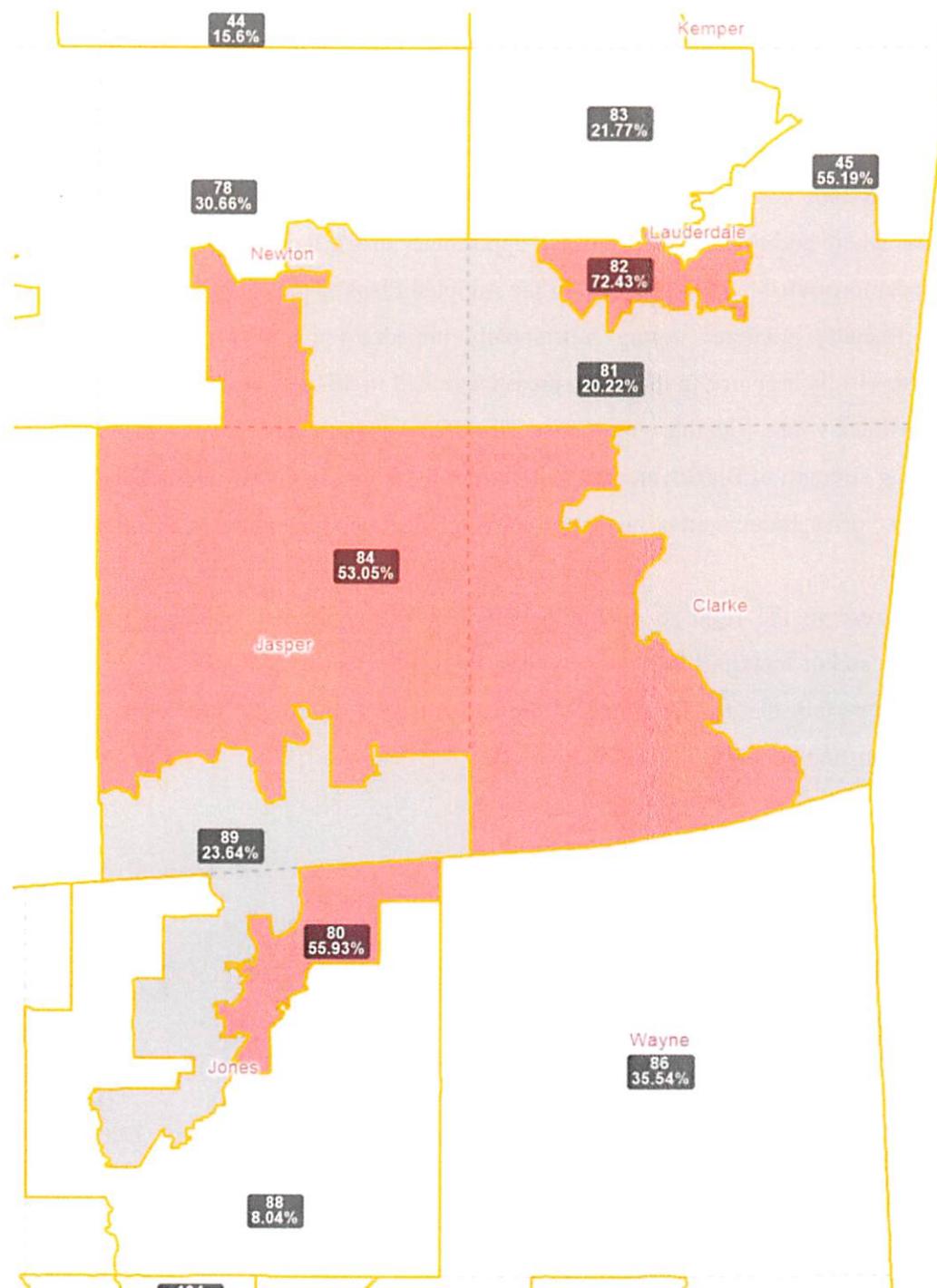
Figure 14 - Illustrative State House Districts, Area of Interest #7

VI. Conclusion

My analysis of voting patterns by race determined that voting in all seven areas of Mississippi that I examined is racially polarized. The Black community is quite cohesive in supporting their preferred candidates in all of these areas, and White voters in these areas consistently bloc vote to defeat the candidates supported by Black voters. These seven areas are all areas where additional majority Black opportunity districts could have been created but were not, as demonstrated by a comparison of the Adopted Plans to the Illustrative Plans.

Racially polarized voting substantially impedes the ability of Black voters to elect candidates of their choice in the seven areas examined in this report unless districts are drawn to provide Black voters with this opportunity. The 2022 Adopted State Senate and House Plans dilute the voting strength of Black voters in Mississippi by failing to create additional districts in these areas that offer Black voters an opportunity to elect their candidates of choice to the state legislature.

I reserve the right to amend or supplement my report considering additional facts, testimony and/or materials that may come to light. Pursuant to 28 U.S.C. 1746, I declare under penalty of perjury that the foregoing is true and correct according to the best of my knowledge, information, and beliefs.

Lisa Handley

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Dr. Lisa Handley
December 22, 2023
Potomac, MD

36

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A1
Area of Interest #1
North West and Central

			Black Voters				White Voters			
			95% confidence				95% confidence			
Race	Party	El rxc	interval	El 2x2	ER	HP	El rxc	interval	El 2x2	ER	HP
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2020 General
President

	Race	Party	El rxc	95% confidence interval	El 2x2	ER	HP	El rxc	95% confidence interval	El 2x2	ER	HP
Joseph Biden/Kamala Harris	W/B	D	95.2	93.3, 96.6	94.5	100.9	92.3	7.9	5.7, 10.4	9.1	2.2	7.1
Donald Trump/Michael Pence	W/W	R	3.8	2.4, 5.7	4.6	-2.5	6.1	91.5	88.9, 93.7	89.0	96.6	92.1
Others			1.0	.7, 1.4	2.1	1.8	1.6	0.6	.5, .9	2.0	1.1	0.8
US Senate												
Mike Espy	B	D	96.2	94.6, 97.4	96.7	104.3	95.6	12.1	9.0, 15.4	12.8	6.3	10.9
Cindy Hyde-Smith	W	R	2.8	1.6, 4.4	2.6	-4.5	3.8	86.8	83.6, 89.9	84.6	90.7	85.2
Jimmy Edwards	W	L	1.0	.7, 1.4	0.4	0.3	0.6	1.0	.8, 1.4	1.2	3.1	3.9
2019 General												
Governor												
Jim Hood	W	D	93.7	91.2, 95.6	95.1	97.6	93.8	20.5	17.6, 23.3	15.1	12.5	20.2
Tate Reeves	W	R	5.0	3.2, 7.5	4.1	0.9	5.1	78.9	76.1, 81.8	83.2	86.2	78.3
Others			1.3	.9, 1.6	2.0	1.6	1.2	0.6	.4, .8	1.1	1.2	1.4
Lieutenant Governor												
Jay Hughes	W	D	91.7	87.9, 94.7	92.3	94.5	90.2	15.6	12.4, 18.8	12.5	8.3	14.9
Delbert Hosemann	W	R	8.3	5.4, 12.1	7.7	5.6	9.8	84.4	81.2, 87.6	87.4	91.8	85.1
Secretary of State												
Johnny DuPree	B	D	93.7	90.6, 96.0	92.4	98.3	92.9	10.3	6.9, 13.6	9.6	4.8	12.3
Michael Watson	W	R	6.3	4.0, 9.4	7.5	1.8	7.1	89.7	86.4, 93.1	90.4	95.2	87.8
Attorney General												
Jennifer Riley Collins	B	D	93.2	90.2, 95.7	93.0	99.2	92.8	10.2	6.8, 13.5	9.7	4.6	12.2
Lynn Fitch	W	R	6.8	4.3, 9.8	6.9	0.8	7.2	89.8	86.5, 93.2	90.2	95.4	87.8

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A1
Area of Interest #1
North West and Central

			Black Voters					White Voters				
	Race	Party	EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2019 General (Cont.)												
State Treasurer												
Addie Lee Green	B	D	92.6	89.0, 95.4	90.8	97.3	88.8	7.5	5.0, 10.4	8.5	1.9	9.3
David McRae	W	R	7.4	4.6, 11.0	9.1	2.7	11.2	92.5	89.6, 95.0	91.5	98.0	90.7
Commissioner of Insurance												
Robert Amos	B	D	92.6	89.2, 95.2	90.7	98.0	91.5	6.6	4.2, 9.5	8.5	1.2	8.4
Mike Chaney	W	R	7.4	4.8, 10.8	9.3	2.0	8.5	93.4	90.5, 95.8	91.9	98.9	91.6
Commissioner of Agriculture												
Rickey Cole	W	D	93.0	89.8, 95.5	92.7	98.1	92.8	10.6	7.5, 13.7	9.5	4.6	13.1
Andy Gipson	W	R	7.0	4.5, 10.2	7.1	1.9	7.2	89.4	86.3, 92.5	90.5	95.3	86.9
2018 General												
US Senate												
David Baria	W	D	92.9	90.1, 95.1	90.7	96.2	88.7	6.7	4.5, 9.5	8.3	2.1	7.2
Roger Wicker	W	R	5.7	3.4, 8.5	7.7	1.5	8.3	92.2	89.6, 94.6	90.0	95.7	90.8
Others			1.4	1.0, 2.0	2.3	2.3	3.0	0.9	.6, 1.2	1.9	2.1	2.0
US Senate Special												
Mike Espy	B	D	92.7	90.8, 94.3	93.4	99.6	93.1	9.6	7.0, 12.2	9.3	3.8	9.1
Cindy Hyde-Smith	W	R	3.4	2.2, 5.0	1.8	0.4	3.8	61.7	59.7, 63.8	62.5	64.4	61.4
Chris McDaniel	W	R	2.4	1.5, 3.5	0.8	-3.0	1.4	28.0	26.7, 29.2	29.9	31.0	28.6
Tobey Bernard Bartee	B	NP	1.5	1.1, 2.0	3.0	3.0	1.7	0.7	.5, .9	0.6	0.7	0.9
2018 General Runoff												
US Senate Special												
Mike Espy	B	D	96.4	94.6, 97.8	96.2	108.5	97.1	8.3	5.5, 11.8	17.1	6.1	9.6
Cindy Hyde-Smith	W	R	3.6	2.2, 5.4	3.8	-8.5	2.9	91.7	88.2, 94.5	82.9	93.8	90.4

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A1
Area of Interest #1
North West and Central

			Black Voters					White Voters			
			95% confidence					95% confidence			
	Race	Party	El rxc	interval	El 2x2	ER	HP	El rxc	interval	El 2x2	ER	HP
2016 General												
President												
Hillary Clinton/Tim Kaine	W/W	D	96.1	94.6, 97.2	96.0	104.4	95.0	6.8	4.8, 8.9	8.5	1.7	9.0
Donald Trump/Michael Pence	W/W	R	2.8	1.7, 4.1	3.0	-5.4	4.0	92.4	90.2, 94.4	89.5	95.7	89.1
Others			1.1	.7, 1.6	1.3	1.0	1.0	0.9	.6, 1.2	3.4	2.5	1.9
2015 General												
Governor												
Robert Gray	B	D	73.9	69.3, 78.5	76.2	81.8	76.9	6.3	4.3, 8.7	6.7	0.9	8.1
Phil Bryant	W	R	24.5	19.9, 29.2	21.4	16.4	20.8	92.8	90.4, 94.8	92.6	97.9	90.9
Shawn O'Hara	W	Ref	1.6	1.1, 2.1	1.5	1.9	2.3	0.9	.6, 1.1	1.3	1.1	1.0
Secretary of State												
Charles Graham	B	D	86.4	82.6, 89.7	87.6	94.7	86.5	10.5	7.7, 13.3	9.7	5.5	16.0
Delbert Hosemann	W	R	9.7	6.6, 13.3	8.5	1.4	8.9	86.6	83.8, 89.4	86.6	90.0	78.7
Randy Walker		Ref	3.9	2.9, 5.1	4.3	3.8	4.5	2.9	2.2, 3.7	3.5	4.6	5.3
2012 General *US*												
President												
Barack Obama/Joe Biden	B/W	D	96.6	95.3, 97.7	98.4	106.8	97.4	7.9	6.0, 9.9	12.6	7.7	14.3
Mitt Romney/Paul Ryan	W/W	R	2.8	1.8, 4.1	1.2	-6.9	2.4	91.7	89.6, 93.5	86.4	90.9	84.5
Others			0.6	.4, .8	0.3	0.1	0.2	0.5	.3, .6	1.5	1.4	1.3
2011 General												
Governor												
Johnny DuPree	B	D	92.1	88.4, 94.9	90.5	96.4	94.5	7.0	5.0, 9.3	8.6	5.1	14.3
Phil Bryant	W	R	7.9	5.1, 11.7	9.5	3.6	5.5	93.0	90.7, 95.0	91.4	95.0	85.7

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A2
Area of Interest #2
Greater Golden Triangle

	Race	Party	Black Voters					White Voters				
			EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2020 General												
President												
Joseph Biden/Kamala Harris	W/B	D	96.9	95.8, 97.8	94.4	104.4	95.3	4.8	3.3, 6.5	8.5	0.7	8.4
Donald Trump/Michael Pence	W/W	R	2.4	1.5, 3.4	5.2	-6.0	3.6	94.7	92.9, 96.1	89.7	98.3	90.6
Others			0.7	.5, 1.0	2.3	1.6	1.1	0.5	.4, .7	1.3	1.0	1.0
US Senate												
Mike Espy	B	D	97.4	96.4, 98.2	96.0	106.5	97.1	8.7	6.8, 10.7	11.4	4.2	11.8
Cindy Hyde-Smith	W	R	1.9	1.2, 2.8	3.1	-6.7	2.5	90.5	88.5, 92.4	86.7	93.2	85.9
Jimmy Edwards	W	L	0.7	.5, 1.0	0.6	0.0	0.4	0.8	.6, 1.1	2.4	2.5	2.3
2019 General												
Governor												
Jim Hood	W	D	96.7	95.2, 97.8	96.6	104.8	97.4	14.7	12.3, 17.0	15.8	11.1	18.6
Tate Reeves	W	R	2.6	1.5, 4.0	2.9	-5.4	2.2	84.7	82.5, 87.1	83.0	87.8	80.4
Others			0.7	.5, 1.0	0.3	0.5	0.4	0.5	.4, .7	1.3	1.2	1.0
Lieutenant Governor												
Jay Hughes	W	D	95.6	93.6, 97.2	95.0	100.1	92.9	4.4	3.0, 6.2	7.0	3.3	10.6
Delbert Hosemann	W	R	4.4	2.8, 6.4	5.1	0.0	7.1	95.6	93.8, 97.0	93.0	96.7	89.4
Secretary of State												
Johnny DuPree	B	D	96.3	94.5, 97.8	94.7	103.4	96.2	4.7	3.1, 6.8	7.9	2.9	10.8
Michael Watson	W	R	3.7	2.2, 5.5	5.3	-3.4	3.8	95.3	93.2, 96.9	92.1	97.1	89.2
Attorney General												
Jennifer Riley Collins	B	D	96.7	95.1, 97.8	95.2	103.9	96.6	6.2	4.4, 8.4	9.2	4.2	12.3
Lynn Fitch	W	R	3.3	2.2, 4.9	4.8	-4.1	3.4	93.8	91.6, 95.6	90.9	95.8	87.7

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A2
Area of Interest #2
Greater Golden Triangle

| | Race | Party | Black Voters | | | | | White Voters | | | | |
			EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2019 General (Cont.)												
State Treasurer												
Addie Lee Green	B	D	96.3	94.5, 97.6	93.1	102.7	95.8	2.9	1.9, 4.4	6.7	0.3	8.6
David McRae	W	R	3.7	2.4, 5.5	6.8	-2.6	4.2	97.1	95.6, 98.1	93.3	99.7	91.4
Commissioner of Insurance												
Robert Amos	B	D	96.2	94.2, 97.7	93.0	102.3	95.5	3.1	2.1, 4.4	6.3	0.2	8.2
Mike Chaney	W	R	3.8	2.3, 5.8	7.0	-2.2	4.5	96.9	95.6, 97.9	93.7	99.8	91.8
Commissioner of Agriculture												
Rickey Cole	W	D	96.1	94.3, 97.5	95.0	103.6	96.4	6.6	4.7, 8.5	8.7	4.3	12.3
Andy Gipson	W	R	3.9	2.5, 5.7	4.9	-3.6	3.6	93.4	91.5, 95.3	91.3	95.8	87.7
2018 General												
US Senate												
David Baria	W	D	95.1	93.0, 96.7	92.4	99.4	92.5	3.5	2.4, 4.9	6.2	0.9	8.4
Roger Wicker	W	R	3.9	2.4, 6.0	6.2	-0.7	6.5	95.7	94.3, 96.8	92.4	97.0	89.6
Others			1.0	.7, 1.3	1.0	1.2	1.1	0.8	.7, 1.0	2.3	2.2	2.0
US Senate Special												
Mike Espy	B	D	93.6	91.9, 95.0	93.9	99.5	93.7	5.2	3.6, 6.9	7.4	3.0	10.1
Cindy Hyde-Smith	W	R	3.2	2.0, 4.8	1.1	0.1	2.6	71.0	69.5, 72.4	70.7	70.7	64.3
Chris McDaniel	W	R	1.6	1.0, 2.3	0.8	-2.7	1.3	23.2	22.3, 24.1	23.9	25.9	24.9
Tobey Bernard Bartee	B	NP	1.6	1.3, 2.1	2.5	3.1	2.4	0.6	.4, .8	0.8	0.4	0.7
2018 General Runoff												
US Senate Special												
Mike Espy	B	D	97.2	95.8, 98.2	95.9	110.5	98.9	4.2	2.8, 6.0	13.7	2.9	10.0
Cindy Hyde-Smith	W	R	2.8	1.8, 4.2	4.0	-10.5	1.1	95.8	94.0, 97.2	86.2	97.2	90.0

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A2
Area of Interest #2
Greater Golden Triangle

	Race	Party	Black Voters					White Voters				
			EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2016 General												
President												
Hillary Clinton/Tim Kaine	W/W	D	96.7	95.6, 97.6	95.5	105.5	97.8	3.7	2.6, 5.0	7.3	0.9	8.6
Donald Trump/Michael Pence	W/W	R	2.4	1.6, 3.5	3.8	-6.8	1.6	95.6	94.3, 96.8	90.5	97.3	89.9
Others			0.9	.6, 1.2	0.3	1.3	0.6	0.7	.6, .9	2.2	1.7	1.5
2015 General												
Governor												
Robert Gray	B	D	85.3	81.9, 88.6	85.4	88.5	82.2	3.5	2.6, 4.7	3.9	1.2	8.6
Phil Bryant	W	R	13.9	10.6, 17.3	13.2	10.4	16.8	95.9	94.8, 96.9	95.4	97.8	90.4
Shawn O'Hara	W	Ref	0.8	.6, 1.1	1.0	1.1	1.0	0.6	.4, .7	0.6	1.0	1.1
Secretary of State												
Charles Graham	B	D	93.1	90.6, 95.0	91.7	94.8	90.7	6.5	5.2, 8.0	6.2	4.6	12.4
Delbert Hosemann	W	R	5.0	3.1, 7.5	5.9	2.5	6.8	92.2	90.8, 93.6	91.9	92.6	84.9
Randy Walker		Ref	1.9	1.4, 2.6	3.0	2.7	2.5	1.2	.9, 1.6	2.1	2.8	2.8
2012 General												
US President												
Barack Obama/Joe Biden	B/W	D	96.5	95.1, 97.7	96.8	106.6	98.6	6.8	5.5, 8.3	12.0	6.5	12.9
Mitt Romney/Paul Ryan	W/W	R	3.0	1.9, 4.4	2.8	-6.9	0.9	92.6	91.2, 94.0	86.6	92.0	85.5
Others			0.5	.3, .7	0.6	0.2	0.6	0.5	.4, .7	1.4	1.6	1.6
2011 General												
Governor												
Johnny DuPree	B	D	93.2	90.2, 95.5	90.9	95.7	95.5	9.8	8.0, 11.7	9.7	8.2	15.9
Phil Bryant	W	R	6.8	4.5, 9.8	9.1	4.3	4.5	90.2	88.3, 92.0	90.2	91.8	84.1

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A3
Area of Interest #3
South Central

	Race	Party	Black Voters					White Voters				
			EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2020 General												
President												
Joseph Biden/Kamala Harris	W/B	D	98.0	97.4, 98.4	95.1	102.5	95.3	7.9	6.5, 9.5	10.3	-0.5	13.9
Donald Trump/Michael Pence	W/W	R	1.5	1.1, 2.0	4.4	-3.9	3.6	91.4	89.9, 92.8	87.7	99.5	84.8
Others			0.5	.4, .7	1.3	1.4	1.1	0.6	.5, .8	1.3	1.0	1.3
US Senate												
Mike Espy	B	D	98.2	97.7, 98.7	96.3	104.7	97.1	9.3	7.6, 11.2	13.1	1.2	15.8
Cindy Hyde-Smith	W	R	1.3	.9, 1.8	3.1	-5.1	2.5	89.9	88.0, 91.7	85.7	97.2	82.7
Jimmy Edwards	W	L	0.4	.3, .5	0.4	0.4	0.5	0.8	.6, .9	1.5	1.6	1.5
2019 General												
Governor												
Jim Hood	W	D	98.0	97.5, 98.5	98.3	103.5	96.9	17.5	15.2, 19.7	16.9	9.3	22.9
Tate Reeves	W	R	1.5	1.1, 2.0	1.3	-4.2	2.3	81.7	79.5, 84.0	81.5	89.4	75.7
Others			0.5	.4, .7	0.8	0.8	0.8	0.8	.6, .9	1.7	1.3	1.4
Lieutenant Governor												
Jay Hughes	W	D	92.5	91.3, 93.6	92.7	94.7	87.9	7.1	5.3, 9.0	6.6	2.1	12.9
Delbert Hosemann	W	R	7.5	6.4, 8.7	7.3	5.3	12.1	92.9	91.0, 94.7	93.5	98.0	87.1
Secretary of State												
Johnny DuPree	B	D	97.9	97.2, 98.4	95.8	103.4	96.2	6.9	5.2, 8.9	10.8	10.4	13.5
Michael Watson	W	R	2.1	1.6, 2.8	4.2	-3.3	3.8	93.1	91.1, 94.8	89.2	90.9	86.5
Attorney General												
Jennifer Riley Collins	B	D	98.1	97.4, 98.6	95.9	103.8	96.6	7.5	5.6, 9.6	11.8	1.2	14.0
Lynn Fitch	W	R	1.9	1.4, 2.6	4.2	-3.8	3.4	92.5	90.4, 94.4	88.2	98.8	86.0

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A3
Area of Interest #3
South Central

	Race	Party	Black Voters					White Voters				
			EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2019 General (Cont.)												
State Treasurer												
Addie Lee Green	B	D	97.2	96.4, 97.8	94.2	101.9	94.3	4.8	3.6, 6.2	7.8	-2.5	9.7
David McRae	W	R	2.8	2.2, 3.6	5.8	-1.9	5.7	95.2	93.8, 96.4	92.1	102.5	90.3
Commissioner of Insurance												
Robert Amos	B	D	96.9	96.1, 97.6	93.8	101.3	94.1	4.2	3.1, 5.5	7.6	-2.9	9.0
Mike Chaney	W	R	3.1	2.4, 3.9	6.2	-1.4	5.9	95.8	94.5, 96.9	92.4	102.9	91.0
Commissioner of Agriculture												
Rickey Cole	W	D	97.6	96.9, 98.1	95.6	102.4	95.4	7.0	5.2, 9.0	9.4	1.0	13.2
Andy Gipson	W	R	2.4	1.9, 3.1	4.4	-2.4	4.6	93.0	91.0, 94.8	90.6	99.1	86.8
2018 General												
US Senate												
David Baria	W	D	96.7	96.0, 97.3	93.7	99.3	93.6	6.4	5.1, 7.9	8.7	-1.2	12.3
Roger Wicker	W	R	2.3	1.8, 2.9	4.7	-1.4	4.7	92.6	91.1, 93.8	89.7	98.9	85.5
Others			1.0	.8, 1.2	1.9	2.1	1.7	1.0	.8, 1.3	1.9	2.3	2.1
US Senate Special												
Mike Espy	B	D	96.5	95.9, 97.1	94.4	100.7	95.0	6.8	5.2, 8.5	9.8	-0.5	12.7
Cindy Hyde-Smith	W	R	1.4	1.1, 1.9	1.0	-3.1	2.6	75.1	73.6, 76.5	77.1	80.2	74.0
Chris McDaniel	W	R	1.3	1.0, 1.6	0.6	0.5	1.2	17.5	16.8, 18.0	19.2	19.8	12.8
Tobey Bernard Bartee	B	NP	0.8	.6, .9	1.6	1.8	1.1	0.7	.5, .8	0.6	0.6	0.5
2018 General Runoff												
US Senate Special												
Mike Espy	B	D	98.4	97.8, 98.9	96.3	106.7	98.4	8.0	6.5, 9.7	17.5	2.2	14.1
Cindy Hyde-Smith	W	R	1.6	1.1, 2.2	3.7	-6.6	1.6	92.0	90.3, 93.5	82.6	97.8	85.9

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A3
Area of Interest #3
South Central

			Black Voters					White Voters				
	Race	Party	El rxc	95% confidence interval	El 2x2	ER	HP	El rxc	95% confidence interval	El 2x2	ER	HP
2016 General												
President												
Hillary Clinton/Tim Kaine	W/W	D	98.1	97.5, 98.5	95.1	103.5	96.5	5.7	4.5, 7.2	10.1	-0.9	10.8
Donald Trump/Michael Pence	W/W	R	1.3	1.0, 1.8	4.2	-4.5	2.5	93.2	91.8, 94.4	87.7	99.0	87.2
Others			0.6	.4, .8	0.8	1.0	1.0	1.0	.8, 1.3	2.2	1.8	2.0
2015 General												
Governor												
Robert Gray	B	D	89.3	87.9, 90.6	85.2	89.5	85.4	5.1	3.7, 6.6	4.6	-2.1	9.1
Phil Bryant	W	R	9.4	8.1, 10.8	12.6	8.4	12.7	94.2	92.7, 95.6	94.9	101.4	90.3
Shawn O'Hara	W	Ref	1.3	1.0, 1.5	2.1	2.1	1.9	0.7	.5, .9	0.7	0.7	0.6
Secretary of State												
Charles Graham	B	D	93.4	92.3, 94.3	89.5	94.5	89.5	6.4	5.0, 7.9	4.8	-1.1	9.2
Delbert Hosemann	W	R	5.0	4.0, 6.0	8.3	3.3	8.7	92.0	90.6, 93.5	93.2	98.1	87.9
Randy Walker		Ref	1.7	1.4, 2.0	1.9	2.2	1.8	1.5	1.2, 1.9	2.5	3.0	2.9
2012 General												
US President												
Barack Obama/Joe Biden	B/W	D	98.3	97.8, 98.7	97.1	104.5	98.0	7.3	6.0, 8.7	11.9	3.3	13.6
Mitt Romney/Paul Ryan	W/W	R	1.3	.9, 1.8	2.5	-4.9	1.7	92.1	90.7, 93.4	87.1	95.5	85.5
Others			0.4	.3, .5	0.6	0.3	0.3	0.6	.5, .8	0.9	1.2	0.9
2011 General												
Governor												
Johnny DuPree	B	D	97.2	96.3, 97.9	94.5	100.5	96.3	9.4	7.5, 11.2	8.6	2.4	14.8
Phil Bryant	W	R	2.8	2.1, 3.7	5.5	-0.4	3.7	90.6	88.8, 92.5	91.3	97.9	85.2

APPENDIX A4
Area of Interest #4
South East

Estimates of Voting Patterns by Race in Recent Statewide Elections

| | Race | Party | Black Voters | | | | | White Voters | | | | |
			EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2020 General												
President												
Joseph Biden/Kamala Harris	W/B	D	95.5	93.8, 96.9	91.8	106.0	95.7	4.4	3.3, 5.7	6.9	-1.2	6.0
Donald Trump/Michael Pence	W/W	R	3.4	2.1, 5.1	6.8	-7.8	2.9	95.1	93.8, 96.1	51.8	100.2	93.1
Others			1.1	.8, 1.5	1.7	1.8	1.3	0.5	.4, .7	1.0	0.9	0.9
US Senate												
Mike Espy	B	D	95.9	94.3, 97.2	94.6	108.6	98.0	8.3	6.2, 10.2	9.0	2.1	9.0
Cindy Hyde-Smith	W	R	3.0	1.9, 4.5	4.8	-8.9	1.8	90.8	88.8, 92.8	88.8	95.2	88.6
Jimmy Edwards	W	L	1.0	.6, 1.5	0.6	0.4	0.3	1.0	.7, 1.3	2.8	2.6	2.4
2019 General												
Governor												
Jim Hood	W	D	95.6	93.8, 96.9	95.6	106.8	96.9	13.1	11.0, 15.1	11.8	7.3	12.9
Tate Reeves	W	R	3.4	2.1, 5.0	4.3	-7.3	2.3	86.0	84.0, 88.1	86.4	90.7	85.3
Others			1.1	.7, 1.5	1.2	0.6	0.8	0.9	.7, 1.1	2.0	2.0	1.8
Lieutenant Governor												
Jay Hughes	W	D	93.4	90.5, 95.7	93.3	98.6	90.1	6.1	3.7, 8.3	5.3	3.2	9.3
Delbert Hosemann	W	R	6.6	4.3, 9.5	6.9	1.4	9.9	93.9	91.7, 96.3	94.7	96.8	90.7
Secretary of State												
Johnny DuPree	B	D	95.6	93.2, 97.3	93.1	107.1	98.3	4.1	2.9, 5.7	6.7	0.0	7.2
Michael Watson	W	R	4.4	2.7, 6.8	6.7	-7.1	1.7	95.9	94.3, 97.1	93.4	100.0	92.8
Attorney General												
Jennifer Riley Collins	B	D	95.1	92.8, 96.9	92.8	105.2	94.9	3.8	2.6, 5.6	6.5	0.7	7.5
Lynn Fitch	W	R	4.9	3.1, 7.3	7.2	-5.1	5.1	96.2	94.4, 97.4	93.5	99.3	92.5

PTX-004-046

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A4
Area of Interest #4
South East

			Black Voters					White Voters			
			95% confidence					95% confidence			
Race	Party	El rxc	interval	El 2x2	ER	HP	El rxc	interval	El 2x2	ER	HP

2019 General (Cont.)
State Treasurer

	Race	Party	El rxc	interval	El 2x2	ER	HP	El rxc	interval	El 2x2	ER	HP
Addie Lee Green	B	D	94.2	91.4, 96.4	90.1	102.9	94.3	2.9	2.0, 4.0	5.1	-0.8	6.0
David McRae	W	R	5.8	3.6, 8.6	10.1	-3.0	5.7	97.1	96.0, 98.0	94.9	100.9	94.0
Commissioner of Insurance												
Robert Amos	B	D	94.7	92.1, 96.6	89.8	102.5	93.3	2.9	2.0, 4.0	4.9	-1.6	5.4
Mike Chaney	W	R	5.3	3.4, 7.9	10.2	-2.5	6.7	97.1	96.0, 98.0	95.1	101.5	94.6
Commissioner of Agriculture												
Rickey Cole	W	D	95.4	93.3, 97.1	92.7	104.7	96.1	6.1	4.2, 8.1	7.3	2.4	9.5
Andy Gipson	W	R	4.6	2.9, 6.7	7.3	-4.8	3.9	93.9	91.9, 95.8	92.7	97.6	90.5
2018 General												
US Senate												
David Baria	W	D	94.5	92.3, 96.1	91.6	103.3	94.0	3.5	2.5, 4.9	5.6	-0.6	6.1
Roger Wicker	W	R	4.0	2.5, 6.0	6.0	-5.7	3.9	95.4	94.0, 96.4	92.9	97.8	90.9
Others			1.5	1.1, 2.1	2.0	2.4	2.1	1.2	.9, 1.5	2.9	2.8	3.0
US Senate Special												
Mike Espy	B	D	88.3	85.9, 90.4	86.6	97.8	94.5	3.8	2.8, 4.9	6.6	0.0	6.3
Cindy Hyde-Smith	W	R	3.6	2.3, 5.3	0.9	-0.2	1.7	51.5	50.6, 52.4	52.9	50.9	44.8
Chris McDaniel	W	R	3.2	1.9, 4.9	0.6	-7.7	1.0	43.8	42.9, 44.6	45.0	48.4	48.2
Tobey Bernard Bartee	B	NP	4.9	4.1, 5.7	6.4	10.1	2.9	1.0	.7, 1.3	0.5	0.7	0.7
2018 General Runoff												
US Senate Special												
Mike Espy	B	D	96.2	94.3, 97.7	92.6	114.7	98.9	3.8	2.8, 5.1	12.2	0.6	6.8
Cindy Hyde-Smith	W	R	3.8	2.0, 5.1	7.5	-14.7	1.1	96.2	94.9, 97.2	87.7	99.4	93.2

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A4
Area of Interest #4
South East

	Race	Party	Black Voters					White Voters				
			EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2016 General												
President												
Hillary Clinton/Tim Kaine	W/W	D	95.9	94.3, 97.2	92.1	107.9	97.5	2.8	2.0, 3.8	6.7	-1.6	5.4
Donald Trump/Michael Pence	W/W	R	3.0	1.8, 4.5	6.8	-9.2	1.7	96.4	95.3, 97.2	92.1	99.8	93.2
Others			1.1	.8, 1.6	0.6	1.2	0.7	0.8	.6, 1.1	2.6	1.8	1.4
2015 General												
Governor												
Robert Gray	B	D	83.2	78.5, 88.2	79.6	84.3	79.9	3.1	2.1, 4.1	2.3	-0.4	5.4
Phil Bryant	W	R	15.0	10.0, 19.8	17.6	13.4	18.0	96.3	95.2, 97.3	97.1	99.1	93.4
Shawn O'Hara	W	Ref	1.8	1.3, 2.3	2.3	2.3	2.1	0.6	.5, .8	1.2	1.3	1.2
Secretary of State												
Charles Graham	B	D	88.4	84.9, 91.3	85.2	91.6	86.6	5.6	4.5, 6.8	4.0	1..8	8.1
Delbert Hosemann	W	R	8.4	5.7, 11.9	11.2	5.3	11.1	92.5	91.2, 93.6	93.8	94.9	88.6
Randy Walker		Ref	3.1	2.3, 4.1	2.7	3.2	2.3	1.9	1.5, 2.4	3.0	3.3	3.3
2012 General												
US President												
Barack Obama/Joe Biden	B/W	D	96.2	94.7, 97.4	92.1	109.8	99.1	3.9	2.7, 5.3	8.8	1.0	6.8
Mitt Romney/Paul Ryan	W/W	R	3.1	1.9, 4.6	7.6	-10.1	0.7	95.6	94.2, 96.8	90.2	97.7	92.1
Others			0.7	.5, 1.0	0.4	0.3	0.2	0.5	.4, .7	1.1	1.3	1.1
2011 General												
Governor												
Johnny DuPree	B	D	95.3	92.8, 97.3	92.4	106.3	98.7	7.2	5.6, 8.8	9.6	4.3	10.2
Phil Bryant	W	R	4.7	2.7, 7.2	7.7	-6.5	1.3	92.8	91.2, 94.4	90.3	95.8	89.8

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A5
Area of Interest #5
Western Jackson

			Black Voters				White Voters			
			95% confidence				95% confidence			
	Race	Party	EI rxc	interval	EI 2x2	ER	HP	EI rxc	interval	EI 2x2	ER	HP

2020 General
President

	Race	Party	EI rxc	interval	EI 2x2	ER	HP	EI rxc	interval	EI 2x2	ER	HP
Joseph Biden/Kamala Harris	W/B	D	97.6	96.6, 98.2	97.6	101.5	95.8	20.2	17.2, 23.2	13.8	12.1	29.1
Donald Trump/Michael Pence	W/W	R	1.9	1.2, 2.8	2.3	-2.6	3.1	79.2	76.2, 82.1	84.5	86.2	68.6
Others			0.5	.4, .9	1.0	1.0	1.1	0.6	.4, .9	1.6	1.7	2.3

US Senate

	Race	Party	EI rxc	interval	EI 2x2	ER	HP	EI rxc	interval	EI 2x2	ER	HP
Mike Espy	B	D	97.8	96.8, 98.5	98.2	103.4	97.5	22.1	19.0, 25.2	16.6	13.8	31.5
Cindy Hyde-Smith	W	R	1.7	1.0, 2.6	1.6	-3.9	2.0	77.1	74.0, 80.1	81.4	84.0	67.0
Jimmy Edwards	W	L	0.5	.3, .7	0.6	0.3	0.4	0.9	.6, 1.2	2.1	2.1	1.5

2019 General
Governor

	Race	Party	EI rxc	interval	EI 2x2	ER	HP	EI rxc	interval	EI 2x2	ER	HP
Jim Hood	W	D	97.7	96.7, 98.5	98.5	102.0	97.5	32.0	29.0, 34.9	24.2	23.6	41.0
Tate Reeves	W	R	1.8	1.0, 2.8	1.3	-2.7	1.8	67.4	64.6, 70.5	74.2	75.3	57.8
Others			0.5	.3, .7	0.6	0.8	0.7	0.5	.3, .8	0.9	1.1	1.2

Lieutenant Governor

	Race	Party	EI rxc	interval	EI 2x2	ER	HP	EI rxc	interval	EI 2x2	ER	HP
Jay Hughes	W	D	91.3	89.3, 93.1	92.7	94.0	87.9	14.5	10.3, 18.2	9.3	8.0	19.5
Delbert Hosemann	W	R	8.7	6.9, 10.7	7.3	6.0	12.1	85.5	81.9, 89.7	90.9	91.9	80.5

Secretary of State

	Race	Party	EI rxc	interval	EI 2x2	ER	HP	EI rxc	interval	EI 2x2	ER	HP
Johnny DuPree	B	D	97.8	96.6, 98.7	96.8	103.0	96.9	15.2	11.0, 19.0	11.3	7.4	22.8
Michael Watson	W	R	2.2	1.3, 3.4	2.7	-3.0	3.1	84.8	81.0, 89.0	88.7	92.5	77.2

Attorney General

	Race	Party	EI rxc	interval	EI 2x2	ER	HP	EI rxc	interval	EI 2x2	ER	HP
Jennifer Riley Collins	B	D	97.7	96.5, 98.6	97.7	103.3	97.0	17.9	13.5, 21.7	13.1	10.1	24.5
Lynn Fitch	W	R	2.3	1.4, 3.5	2.2	-3.2	3.0	82.1	78.3, 86.5	87.6	90.0	75.5

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A5
Area of Interest #5
Western Jackson

		Black Voters					White Voters				
Race	Party	EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2019 General (Cont.)											
State Treasurer											
Addie Lee Green	B	D	96.8	95.5, 97.9	97.1	101.5	94.8	10.7	6.5, 14.6	8.0	3.0	17.8
David McRae	W	R	3.2	2.1, 4.5	3.3	-1.5	5.2	89.3	85.4, 93.5	92.0	97.0	82.2
Commissioner of Insurance											
Robert Amos	B	D	96.6	95.3, 97.7	97.1	101.6	94.8	9.6	6.2, 13.3	7.3	1.9	14.9
Mike Chaney	W	R	3.4	2.3, 4.7	3.3	-1.6	5.2	90.4	86.7, 93.8	92.7	98.1	85.1
Commissioner of Agriculture											
Rickey Cole	W	D	97.3	96.0, 98.3	97.3	101.9	95.9	14.7	10.8, 18.4	10.0	7.4	22.8
Andy Gipson	W	R	2.7	1.7, 4.0	3.0	-1.8	4.1	85.3	81.6, 89.2	90.0	92.6	77.2
2018 General											
US Senate											
David Baria	W	D	96.3	95.2, 97.2	96.3	99.1	94.1	17.5	14.2, 20.5	11.2	9.3	25.7
Roger Wicker	W	R	2.8	1.9, 3.8	2.9	-1.1	4.3	81.8	78.8, 85.0	87.8	89.3	73.1
Others			0.9	.7, 1.3	1.8	1.9	1.7	0.7	.4, 1.0	1.5	1.4	1.1
US Senate Special											
Mike Espy	B	D	96.9	95.9, 97.8	97.3	101.1	96.2	19.2	16.3, 21.9	12.3	10.2	27.8
Cindy Hyde-Smith	W	R	1.5	.9, 2.2	0.6	-2.9	2.1	69.1	66.7, 71.7	75.3	75.0	65.1
Chris McDaniel	W	R	1.1	.6, 1.8	0.4	0.5	0.9	11.3	10.2, 12.3	14.4	14.4	6.8
Tobey Bernard Bartee	B	NP	0.5	.3, .6	1.1	1.1	0.8	0.4	.3, .6	0.9	0.5	0.3
2018 General Runoff											
US Senate Special											
Mike Espy	B	D	98.2	97.2, 99.0	97.3	105.1	98.8	19.6	15.3, 23.8	18.8	14.1	31.3
Cindy Hyde-Smith	W	R	1.8	1.0, 2.8	1.8	-4.9	1.2	80.4	76.2, 84.7	80.5	85.9	68.7

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A5
Area of Interest #5
Western Jackson

		Black Voters					White Voters				
Race	Party	EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2016 General											
President											
Hillary Clinton/Tim Kaine	W/W	D	97.7	96.7, 98.4	97.2	102.4	96.9	14.0	11.2, 16.8	10.2	6.9	23.1
Donald Trump/Michael Pence	W/W	R	1.6	1.0, 2.5	2.2	-3.1	2.1	84.6	81.8, 87.4	86.8	89.1	72.6
Others			0.7	.4, 1.0	0.8	0.7	1.0	1.4	.9, 1.8	3.8	4.0	4.2
2015 General											
Governor											
Robert Gray	B	D	89.0	86.9, 90.9	85.7	89.7	85.8	9.2	6.6, 11.8	5.6	0.2	16.6
Phil Bryant	W	R	9.7	7.7, 11.8	12.1	8.2	12.2	90.1	87.5, 92.6	93.7	98.8	82.1
Shawn O'Hara	W	Ref	1.4	1.0, 1.7	2.2	2.2	2.0	0.8	.5, 1.1	1.2	1.0	1.3
Secretary of State											
Charles Graham	B	D	93.2	91.5, 94.6	88.9	94.4	89.6	5.3	3.1, 7.8	3.9	-5.0	9.7
Delbert Hosemann	W	R	5.7	4.3, 7.4	9.1	3.4	8.8	93.8	91.3, 96.0	95.0	103.6	89.3
Randy Walker		Ref	1.1	.8, 1.5	1.8	2.1	1.6	0.9	.6, 1.2	1.4	1.4	1.0
2012 General											
US President											
Barack Obama/Joe Biden	B/W	D	98.3	97.5, 98.9	98.0	103.4	98.3	11.4	8.8, 14.2	12.3	7.7	18.2
Mitt Romney/Paul Ryan	W/W	R	1.4	.8, 2.2	1.7	-3.7	1.4	88.0	85.2, 90.5	86.6	90.9	80.6
Others			0.3	.2, .5	0.4	0.3	0.3	0.7	.5, .9	1.3	1.4	1.2
2011 General											
Governor											
Johnny DuPree	B	D	97.0	95.3, 98.2	96.1	99.9	96.9	13.4	10.5, 16.4	9.6	6.4	19.1
Phil Bryant	W	R	3.0	1.8, 4.7	4.0	0.2	3.1	86.6	83.6, 89.5	90.4	93.5	80.9

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A6
Area of Interest #6
Golden Triangle

	Race	Party	Black Voters					White Voters				
			EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2020 General												
President												
Joseph Biden/Kamala Harris	W/B	D	96.6	95.3, 97.6	95.9	105.9	95.3	3.9	2.5, 5.7	8.8	0.6	9.0
Donald Trump/Michael Pence	W/W	R	2.4	1.5, 3.7	3.5	-7.6	3.6	95.5	93.7, 96.9	89.8	98.2	89.9
Others			0.9	.7, 1.3	2.0	1.8	1.1	0.6	.4, .8	1.4	1.2	1.1
US Senate												
Mike Espy	B	D	96.7	95.4, 97.8	98.4	108.1	97.1	7.3	5.1, 9.7	11.0	4.2	12.3
Cindy Hyde-Smith	W	R	2.5	1.5, 3.7	1.2	-8.3	2.5	91.8	89.5, 94.0	87.0	93.1	85.2
Jimmy Edwards	W	L	0.8	.5, 1.2	0.6	0.0	0.4	0.9	.6, 1.2	2.7	2.7	2.4
2019 General												
Governor												
Jim Hood	W	D	96.1	94.4, 97.5	98.6	106.8	97.4	14.8	11.8, 17.6	15.9	12.4	20.1
Tate Reeves	W	R	3.2	1.9, 4.9	1.3	-7.2	2.2	84.7	81.9, 87.7	82.9	86.6	79.0
Others			0.7	.4, 1.0	0.3	0.4	0.4	0.5	.4, .7	1.1	1.0	0.8
Lieutenant Governor												
Jay Hughes	W	D	95.0	92.6, 96.9	95.4	101.1	92.9	4.3	2.7, 6.7	7.3	3.7	11.1
Delbert Hosemann	W	R	5.0	3.1, 7.4	4.5	-1.0	7.1	95.7	93.3, 97.3	92.6	96.3	88.9
Secretary of State												
Johnny DuPree	B	D	95.9	93.8, 97.6	97.1	105.3	96.2	4.3	2.7, 6.5	7.8	2.9	11.2
Michael Watson	W	R	4.1	2.4, 6.2	3.0	-5.3	3.8	95.7	93.5, 97.3	92.1	97.0	88.8
Attorney General												
Jennifer Riley Collins	B	D	96.7	94.9, 98.1	97.8	106.3	96.6	5.4	3.7, 7.7	9.0	4.0	12.5
Lynn Fitch	W	R	3.3	1.9, 5.1	2.2	-6.3	3.4	94.5	92.3, 96.3	91.0	96.0	87.5

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A6
Area of Interest #6
Golden Triangle

	Race	Party	Black Voters EI rxc	95% confidence interval	EI 2x2	ER	HP	White Voters EI rxc	95% confidence interval	EI 2x2	ER	HP
2019 General (Cont.)												
State Treasurer												
Addie Lee Green	B	D	95.9	93.6, 97.6	95.4	104.9	95.8	3.1	2.0, 4.6	6.7	0.1	9.0
David McRae	W	R	4.1	2.4, 6.4	4.6	-4.8	4.2	96.9	95.4, 98.0	93.3	99.8	91.0
Commissioner of Insurance												
Robert Amos	B	D	95.9	93.5, 97.6	95.3	104.7	95.5	3.3	2.2, 4.8	6.4	-0.4	8.6
Mike Chaney	W	R	4.1	2.4, 6.5	4.7	-4.6	4.5	96.7	95.2, 97.8	93.6	100.4	91.4
Commissioner of Agriculture												
Rickey Cole	W	D	96.0	93.8, 97.6	97.6	105.6	96.4	5.8	3.8, 8.2	8.6	4.3	12.6
Andy Gipson	W	R	4.0	2.4, 6.2	2.5	-5.6	3.6	94.2	91.8, 96.2	91.4	95.7	87.4
2018 General												
US Senate												
David Baria	W	D	94.4	91.9, 96.2	93.3	100.7	92.5	3.6	2.1, 5.4	6.7	0.8	8.8
Roger Wicker	W	R	4.6	2.6, 7.1	4.7	-1.6	6.5	95.6	93.7, 97.2	92.3	96.6	89.2
Others			1.0	.7, 1.5	0.8	0.9	1.1	0.8	.5, 1.1	2.6	2.7	2.1
US Senate Special												
Mike Espy	B	D	93.4	91.3, 95.0	95.1	101.4	93.7	5.1	3.3, 7.2	7.6	2.9	10.5
Cindy Hyde-Smith	W	R	3.3	1.9, 5.1	0.8	-0.7	2.6	70.1	68.2, 71.9	68.9	68.3	63.2
Chris McDaniel	W	R	1.7	1.0, 2.6	0.8	-3.7	1.3	24.2	22.9, 25.2	25.1	28.3	25.8
Tobey Bernard Bartee	B	NP	1.6	1.2, 2.1	2.8	3.0	2.4	0.6	.4, .9	0.5	0.5	0.6
2018 General Runoff												
US Senate Special												
Mike Espy	B	D	96.9	95.3, 98.2	98.0	112.0	98.9	4.3	2.8, 6.2	13.3	3.4	10.6
Cindy Hyde-Smith	W	R	3.1	1.8, 4.7	2.0	-12.0	1.1	95.7	93.8, 97.2	86.6	96.6	89.4

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A6
Area of Interest #6
Golden Triangle

	Race	Party	Black Voters					White Voters				
			EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2016 General												
President												
Hillary Clinton/Tim Kaine	W/W	D	96.7	95.2, 97.8	96.9	106.9	97.8	3.2	2.1, 4.5	7.4	0.7	8.9
Donald Trump/Michael Pence	W/W	R	2.4	1.4, 3.8	2.3	-8.0	1.6	96.1	94.8, 97.2	90.7	97.1	89.4
Others			0.9	.6, 1.3	1.0	1.2	0.6	0.7	.5, 1.0	2.7	2.2	1.7
2015 General												
Governor												
Robert Gray	B	D	85.2	81.3, 89.0	87.9	90.5	82.2	3.2	2.2, 4.5	3.7	0.8	8.4
Phil Bryant	W	R	14.0	10.1, 17.9	10.8	8.6	16.8	96.3	95.0, 97.3	95.8	98.2	90.6
Shawn O'Hara	W	Ref	0.9	.6, 1.2	1.0	1.0	1.0	0.6	.4, .8	1.2	1.0	1.0
Secretary of State												
Charles Graham	B	D	91.7	88.5, 94.3	93.3	96.9	90.7	4.8	3.4, 6.4	5.5	2.8	10.8
Delbert Hosemann	W	R	6.1	3.6, 9.4	4.6	0.5	6.8	94.1	92.4, 95.6	92.8	94.9	86.9
Randy Walker		Ref	2.2	1.5, 2.9	2.8	2.6	2.5	1.1	.7, 1.5	2.0	2.4	2.3
2012 General												
US President												
Barack Obama/Joe Biden	B/W	D	96.9	95.4, 98.0	98.9	108.9	98.6	6.2	4.6, 7.8	12.0	5.8	12.7
Mitt Romney/Paul Ryan	W/W	R	2.5	1.5, 3.9	1.0	-9.4	0.9	93.3	91.7, 94.8	86.7	92.7	86.0
Others			0.6	.4, .8	0.8	0.5	0.6	0.5	.4, .7	1.2	1.5	1.3
2011 General												
Governor												
Johnny DuPree	B	D	94.6	91.5, 97.0	94.1	98.0	95.5	8.3	6.3, 10.4	8.6	7.4	14.8
Phil Bryant	W	R	5.4	3.0, 8.5	6.1	1.9	4.5	91.7	89.6, 93.7	91.5	92.6	85.2

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A7
Area of Interest #7
East Central

			Black Voters				White Voters				
			95% confidence					95% confidence			
Race	Party	EI rxc	interval	EI 2x2	ER	HP	EI rxc	interval	EI 2x2	ER	HP
2020 General											
President											
Joseph Biden/Kamala Harris	W/B	D	96.4	94.9, 97.6	94.2	102.5	94.9	2.8	1.8, 4.0	3.7	-2.1	5.8
Donald Trump/Michael Pence	W/W	R	2.7	1.6, 4.3	4.7	-4.0	3.8	96.8	95.5, 97.8	95.5	101.2	93.4
Others			0.8	.6, 1.2	1.4	1.4	1.3	0.4	.3, .6	0.9	0.8	0.8
US Senate											
Mike Espy	B	D	96.6	95.1, 97.8	95.8	104.7	96.8	5.8	4.3, 7.4	5.6	0.5	8.5
Cindy Hyde-Smith	W	R	2.5	1.4, 3.9	4.1	-5.1	2.9	93.1	91.4, 94.6	93.0	97.1	89.1
Jimmy Edwards	W	L	0.9	.6, 1.4	0.6	0.4	0.4	1.1	.8, 1.5	2.6	2.4	2.4
2019 General											
Governor											
Jim Hood	W	D	95.6	93.7, 97.0	95.8	100.8	95.8	11.2	9.2, 13.2	7.5	5.5	12.6
Tate Reeves	W	R	3.2	1.8, 5.0	3.7	-1.8	3.4	87.8	85.8, 89.8	90.7	92.4	85.4
Others			1.2	.8, 1.7	1.5	0.9	0.8	1.0	.7, 1.7	2.0	2.1	2.0
Lieutenant Governor											
Jay Hughes	W	D	94.8	91.9, 96.8	92.8	96.1	90.3	5.5	3.6, 7.5	3.5	1.2	9.0
Delbert Hosemann	W	R	5.2	3.2, 8.1	7.1	4.0	9.7	94.5	92.5, 96.4	96.5	98.9	91.0
Secretary of State											
Johnny DuPree	B	D	96.6	94.5, 98.1	92.9	102.0	97.4	3.3	2.0, 5.0	4.6	-1.7	6.7
Michael Watson	W	R	3.4	1.9, 5.5	7.0	-2.0	2.6	96.7	95.0, 98.0	95.5	101.7	93.3
Attorney General											
Jennifer Riley Collins	B	D	96.4	94.2, 97.9	93.5	100.9	94.1	3.1	1.8, 4.7	3.9	-1.2	7.2
Lynn Fitch	W	R	3.6	2.0, 5.8	6.5	-0.9	5.9	96.9	95.3, 98.2	96.2	101.2	92.8

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A7
Area of Interest #7
East Central

	Race	Party	Black Voters					White Voters				
			El rxc	95% confidence interval	El 2x2	ER	HP	El rxc	95% confidence interval	El 2x2	ER	HP
2019 General (Cont.)												
State Treasurer												
Addie Lee Green	B	D	95.9	93.3, 97.7	90.3	98.7	93.4	2.2	1.3, 3.4	2.8	-3.1	5.5
David McRae	W	R	4.1	2.3, 6.7	9.7	1.3	6.6	97.8	96.6, 98.7	97.2	103.1	94.5
Commissioner of Insurance												
Robert Amos	B	D	95.5	93.0, 97.4	89.6	98.4	92.8	2.2	1.3, 3.3	3.0	-3.5	5.1
Mike Chaney	W	R	4.5	2.6, 7.0	10.4	1.5	7.2	97.8	96.7, 98.7	97.0	103.5	94.9
Commissioner of Agriculture												
Rickey Cole	W	D	95.7	93.4, 97.5	92.5	100.5	95.3	4.9	3.3, 6.7	4.7	-0.7	8.5
Andy Gipson	W	R	4.3	2.5, 6.6	7.5	-0.4	4.7	95.1	93.3, 96.7	95.4	100.7	91.5
2018 General												
US Senate												
David Baria	W	D	95.0	92.9, 96.6	91.7	99.5	94.3	2.5	1.5, 4.0	3.2	-2.1	5.9
Roger Wicker	W	R	3.7	2.1, 5.7	5.7	-1.0	4.6	96.2	94.7, 97.2	95.4	99.5	91.2
Others			1.4	.9, 1.9	1.2	1.5	1.1	1.3	.9, 1.8	2.6	2.6	3.0
US Senate Special												
Mike Espy	B	D	87.6	85.2, 89.7	87.4	91.1	93.2	2.5	1.5, 3.7	2.4	-1.6	5.8
Cindy Hyde-Smith	W	R	3.5	1.9, 5.6	0.8	5.2	2.4	50.5	49.2, 51.7	53.3	50.3	39.6
Chris McDaniel	W	R	2.8	1.6, 4.6	1.3	-6.8	1.6	45.8	44.6, 47.0	49.0	50.3	53.8
Tobey Bernard Bartee	B	NP	6.1	5.0, 7.2	7.8	10.6	2.8	1.2	.8, 1.6	0.2	0.9	0.8
2018 General Runoff												
US Senate Special												
Mike Espy	B	D	96.6	94.7, 98.1	94.2	108.5	98.1	2.7	1.6, 4.2	8.5	-0.9	6.3
Cindy Hyde-Smith	W	R	3.4	1.9, 5.3	5.6	-8.5	1.9	97.3	95.8, 98.4	91.5	100.9	93.7

Estimates of Voting Patterns by Race in Recent Statewide Elections

APPENDIX A7
Area of Interest #7
East Central

			Black Voters					White Voters				
	Race	Party	EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2016 General												
President												
Hillary Clinton/Tim Kaine	W/W	D	96.5	95.0, 97.7	93.4	103.3	-	2.3	1.4, 3.3	4.0	-2.6	5.0
Donald Trump/Michael Pence	W/W	R	2.5	1.5, 4.0	5.0	-4.3	-	97.1	96.1, 98.0	95.4	101.1	93.7
Others			0.9	.6, 1.4	0.7	1.0	-	0.6	.4, .8	1.6	1.5	1.3
2015 General												
Governor												
Robert Gray	B	D	82.9	78.0, 87.6	76.5	83.0	79.2	2.2	1.4, 3.3	1.7	-2.5	4.2
Phil Bryant	W	R	15.3	10.7, 20.4	20.6	15.1	18.8	97.1	96.0, 98.0	98.3	101.4	94.7
Shawn O'Hara	W	Ref	1.7	1.2, 2.4	2.3	1.8	2.0	0.7	.5, .9	0.8	1.1	1.1
Secretary of State												
Charles Graham	B	D	89.5	86.0, 92.5	83.6	90.5	86.6	4.1	2.7, 5.6	2.6	-1.0	6.3
Delbert Hosemann	W	R	7.6	4.7, 11.2	12.9	6.2	11.2	94.0	92.4, 95.5	95.3	98.5	90.7
Randy Walker		Ref	2.8	1.9, 4.1	3.7	3.3	2.3	1.9	1.3, 2.5	2.5	2.6	3.0
2012 General												
US President												
Barack Obama/Joe Biden	B/W	D	96.4	94.9, 97.6	93.6	106.9	98.7	3.2	2.0, 4.6	7.8	-0.1	6.8
Mitt Romney/Paul Ryan	W/W	R	3.0	1.9, 4.5	5.9	-7.3	0.9	96.3	94.9, 97.5	91.5	99.1	92.2
Others			0.6	.4, .8	0.5	0.3	0.4	0.5	.3, .7	1.2	1.1	1.0
2011 General												
Governor												
Johnny DuPree	B	D	94.5	91.8, 96.6	89.8	100.9	98.7	5.1	3.5, 6.8	6.9	0.5	8.6
Phil Bryant	W	R	5.5	3.4, 8.2	10.2	-0.8	1.3	94.9	93.2, 96.5	93.1	99.6	91.4

APPENDIX B

State Legislative Elections

	Party	Race	Vote	El RxC	95% confidence interval	El 2x2	ER	HP	El RxC	95% confidence interval	El 2x2	ER	HP
					Estimates for Black Voters					Estimates for White Voters			
2019 General													
State Senate Contests													
St Senate District 2													
Lee Jackson	D	B	39.7	89.6	73.4, 98.1	94.9	109.1	-	6.7	1.4, 17.8	4.3	-13.8	-
David Parker	R	W	60.4	10.4	1.9, 26.7	5.3	-9.3	-	93.3	82.2, 98.6	96.0	113.9	-
St Senate District 8													
Kegan Coleman	D	B	42.8	95.0	90.4, 98.0	96.8	107.5	-	13.6	11.0, 16.7	12.4	5.1	13.9
Benjamin Suber	R	W	57.2	5.0	2.0, 9.6	3.1	-7.6	-	86.4	83.3, 89.0	87.6	94.8	86.1
St Senate District 10													
Andre DeBerry	D	B	42.1	93.7	88.5, 97.0	89.2	111.4	-	8.3	5.7, 11.9	11.3	-4.3	4.5
Neil Whaley	R	W	57.9	6.3	3.0, 11.5	11.2	-11.2	-	91.7	88.1, 94.4	88.7	104.3	95.5
St Senate District 12													
Derrick Simmons	D	B	81.5	97.3	94.1, 99.3	99.4	102.4	95.8	45.5	38.9, 54.4	41.1	38.4	-
Paul Pecou	O	W	18.5	2.7	.7, 5.9	0.7	-2.3	4.2	54.5	45.6, 61.1	58.8	61.6	-
St Senate District 17													
Dewanna Belton	D	B	31.7	86.4	67.4, 93.5	89.5	100.8	-	5.0	2.2, 13.1	4.8	-2.3	7.0
Charles Younger	R	W	66.0	11.9	4.9, 13.7	5.7	-1.2	-	94.0	85.8, 97.0	94.9	98.9	89.9
Danny Bedwell	L	W	2.3	1.7	.6, 3.4	2.6	0.5	-	0.9	.3, 1.8	2.5	3.4	3.1
St Senate District 19													
Dianne Black	D	B	36.2	83.3	62.3, 95.3	97.9	126.7	-	12.4	5.7, 23.3	8.0	-4.9	-
Kevin Blackwell	R	W	63.8	16.7	4.7, 37.7	1.3	-27.3	-	87.6	76.7, 94.3	92.1	104.7	-
St Senate District 34													
Jaun Barnett	D	B	60.5	97.4	94.9, 99.0	96.7	113.9	-	16.6	14.0, 20.1	18.2	3.5	6.6
Steven Wade	R	W	39.5	2.6	1.0, 5.1	3.3	-14.0	-	83.4	79.9, 86.0	81.9	96.6	93.4
State House Contests													
St House District 16													
Ricky Thompson	D	B	52.2	79.6	65.7, 89.5	86.6	90.4	-	17.6	5.8, 34.7	8.9	8.6	-
Steve Holland	R	W	47.8	20.4	10.5, 34.3	13.6	9.5	-	82.4	65.3, 94.2	90.9	91.0	-

APPENDIX B
State Legislative Elections

	Party	Race	Vote	Estimates for Black Voters					Estimates for White Voters				
				El RxC	95% confidence interval	El 2x2	ER	HP	El RxC	95% confidence interval	El 2x2	ER	HP
St House District 36													
Karl Gibbs	D	B	77.7	95.7	89.9, 99.0	99.3	104.5	-	49.2	42.1, 59.4	41.1	35.6	-
Jessica Lewis	R	W	22.3	4.3	1.0, 10.1	1.1	-4.4	-	50.8	40.6, 57.9	59.6	64.4	-
St House District 68													
Zakiya Summers	D	B	73.2	95.4	86.2, 99.6	99.3	105.8	96.4	28.1	18.2, 47.6	20.2	15.2	-
Jon Pond	R	W	26.8	4.6	.4, 13.8	0.9	-6.0	3.6	71.9	52.4, 81.8	79.8	84.9	-
2015 General State Senate Contests													
St Senate District 14													
Georgio Proctor	D	B	25.8	71.2	64.4, 76.6	71.5	71.9	-	6.3	4.2, 9.1	6.1	5.0	11.7
Linda Graves Chassanoil	R	W	53.2	12.5	5.9, 21.5	16.1	9.8	-	71.0	67.2, 74.1	70.7	68.3	67.9
Donny Ryals	O	W	21.1	16.2	8.9, 23.0	15.1	18.3	-	22.7	19.7, 25.9	23.6	26.5	20.5
St Senate District 32													
Sampson Jackson	D	B	68.9	93.7	89.6, 96.7	92.6	99.6	-	31.5	26.0, 38.5	31.4	18.8	-
Don Wiggins	R	W	31.1	6.3	3.3, 10.4	7.3	0.7	-	68.5	61.5, 74.0	68.8	81.2	-
St Senate District 38													
Tommy Witherspoon	D	B	60.4	92.4	89.5, 94.7	91.9	99.4	-	13.7	10.0, 18.2	13.0	0.3	-
Dennis Quinn	R	B	21.2	3.6	2.0, 5.7	2.1	-2.0	-	47.4	43.8, 50.6	51.0	59.2	-
Bente Johnson	O	W	18.4	4.1	2.1, 6.7	1.5	2.6	-	38.9	34.5, 42.6	43.4	40.3	-
St Senate District 39													
Michael Smith	D	B	36.4	89.7	84.6, 93.6	89.9	95.1	-	15.0	13.0, 17.3	14.0	11.5	23.1
Sally Dotty	R	W	63.6	10.3	6.4, 15.4	10.1	5.0	-	85.0	82.7, 87.0	85.9	88.6	76.9
St Senate District 42													
Johnny Henry	D	B	14.2	59.6	47.8, 69.9	73.6	85.8	-	2.4	1.0, 4.5	1.5	0.1	5.7
Chris McDaniel	R	W	85.8	40.4	30.1, 52.2	27.0	14.0	-	97.6	95.5, 99.0	98.5	99.9	94.3
St Senate District 45													
Eli Jackson	D	B	13.2	51.0	26.7, 73.1	42.9	52.4	-	3.5	1.5, 6.2	4.8	3.3	7.1
Billy Hudson	R	W	86.8	49.0	24.7, 73.1	57.0	47.6	-	96.6	93.8, 98.5	95.1	96.9	92.9

APPENDIX B

State Legislative Elections

	Party	Race	Vote	Estimates for Black Voters					Estimates for White Voters				
				El RxC	95% confidence interval	El 2x2	ER	HP	El RxC	95% confidence interval	El 2x2	ER	HP
State House Contests													
St House District 17													
Charles Penson	D	B	24.2	63.3	30.6, 85.8	85.5	80.7	-	8.9	1.4, 20.4	1.2	3.5	-
Shane Aguirre	R	H	75.8	36.7	14.2, 69.4	14.2	19.5	-	91.1	79.6, 98.6	97.6	96.4	-
St House District 39													
James Samuel, Sr.	D	B	25.0	50.9	19.5, 76.4	44.9	74.0	-	15.7	8.1, 24.9	18.0	16.4	22.3
Jeff Smith	R	W	75.0	49.1	23.6, 80.5	55.5	28.0	-	84.3	75.1, 91.9	82.0	83.8	77.7
St House District 70													
Kathy Sykes	D	B	85.1	98.0	96.3, 99.1	98.0	98.6	96.3	48.6	42.9, 54.9	41.7	41.6	-
James Perry	R	W	14.9	2.0	.9, 3.7	2.0	1.4	3.7	51.4	45.1, 57.1	58.3	58.3	-

PTX-004-060

APPENDIX C
Democratic Primaries: Statewide Results

Estimates of Voting Patterns by Race in Recent Statewide Democratic Primaries

	Race	Party	Actual Vote	Black Voters EI rxc	Black Voters 95% confidence interval	Black Voters EI 2x2	Black Voters ER	Black Voters HP	White Voters EI rxc	White Voters 95% confidence interval	White Voters EI 2x2	White Voters ER	White Voters HP
2019 Democratic Primary													
Governor													
Jim Hood	W	D	69.0	66.5	65.8, 67.3	67.2	60.9	66.0	68.1	65.5, 70.1	71.1	78.1	76.3
Michael Brown	W	D	11.0	13.1	12.6, 13.5	13.3	14.8	10.2	10.0	8.9, 11.2	8.3	7.1	9.1
Velesha Williams	B	D	6.9	6.8	6.4, 7.1	6.7	8.4	6.4	5.8	5.0, 6.8	6.8	5.4	2.8
Robert Shuler Smith	B	D	6.7	7.4	7.1, 7.7	8.8	9.5	12.0	6.3	5.5, 7.3	4.4	3.0	4.0
Others		D	6.4	6.2	5.8, 6.6	5.1	6.5	5.4	9.7	8.7, 10.9	8.0	6.5	7.9
2018 Democratic Primary													
US Senate													
Howard Sherman	W	D	31.8	33.7	32.3, 35.1	33.0	35.6	33.5	21.1	17.9, 24.4	30.6	32.0	30.4
David Baria	W	D	31.0	23.7	22.3, 25.1	26.6	16.5	26.0	43.5	37.8, 49.7	35.9	40.3	48.3
Omeria Scott	B	D	24.2	29.7	28.3, 31.0	27.3	32.8	29.4	17.9	14.9, 21.1	20.5	12.1	8.9
Others			13.0	13.0	12.0, 14.1	13.1	15.1	11.0	17.6	14.8, 20.8	13.0	15.6	12.3
2015 Democratic Primary													
Governor													
Robert Gray	B	D	50.8	45.2	44.1, 46.3	47.8	45.0	43.3	62.3	60.7, 63.8	53.8	54.1	62.8
Vicki Slater	W	D	30.4	30.1	29.0, 31.1	30.3	28.5	30.2	28.8	27.4, 30.3	30.5	33.1	27.3
Valerie Smartt Short	B	D	18.8	24.7	23.9, 25.4	25.8	26.5	26.4	8.9	8.0, 9.8	11.4	12.9	9.9
Lieutenant Governor													
Tim Johnson	W	D	75.8	70.0	69.0, 71.0	69.9	69.1	69.4	87.4	86.1, 88.6	82.3	78.5	85.1
Jelani Barr	B	D	24.2	30.0	29.0, 31.0	30.1	30.8	30.6	12.6	11.5, 13.9	17.8	21.5	14.9
2014 Democratic Primary													
US Senate													
Travis Childers	W	D	74.0	72.3	71.0, 73.6	71.9	67.7	68.0	57.8	51.6, 63.2	76.9	76.7	81.8
Bill Marcy	B	D	12.1	13.8	12.8, 14.7	14.1	16.3	17.3	14.6	12.2, 17.3	9.8	8.2	5.8
William Bond Compton Jr.	W	D	9.9	9.8	9.0, 10.7	8.9	11.5	9.4	14.3	11.9, 17.2	11.3	10.8	8.8
Jonathan Rawl	W	D	4.1	4.2	3.5, 4.8	3.3	4.4	5.3	13.3	11.3, 15.6	5.3	4.4	3.6

Estimates of Voting Patterns by Race in Recent Statewide Democratic Primaries

APPENDIX C

Democratic Primaries:
Statewide Results

	Race	Party	Actual Vote	Black Voters					White Voters				
				EI rxc	95% confidence interval	EI 2x2	ER	HP	EI rxc	95% confidence interval	EI 2x2	ER	HP
2012 Democratic Primary													
US Senate													
Albert Gore Jr.	W	D	56.8	57.2	55.3, 58.2	57.1	59.5	56.5	35.0	30.8, 39.3	56.6	54.8	54.4
Roger Weiner	W	D	24.4	24.4	23.5, 25.2	23.9	20.3	25.5	34.8	29.8, 39.5	24.4	28.6	29.8
Will Oatis	B	D	18.8	18.4	17.7, 19.2	19.0	20.2	18.0	30.3	26.1, 35.2	19.0	16.6	15.9
2011 Primary													
Governor													
Johnny DuPree	B	D	43.6	64.3	63.3, 65.3	68.5	71.8	68.3	15.7	14.3, 16.3	-	25.1	19.5
Bill Luckett	W	D	39.2	23.8	22.8, 24.8	21.8	20.2	23.7	58.5	57.3, 59.6	-	50.2	54.2
William Bond Compton Jr.	W	D	9.8	8.2	7.6, 8.9	4.9	6.2	6.0	12.7	11.9, 13.5	-	13.6	14.2
Guy Dale Shaw	W	D	7.3	3.7	3.3, 4.2	2.1	1.9	2.0	13.5	12.9, 14.1	-	11.0	12.1
2011 Primary Runoff													
Governor													
Johnny DuPree	B	D	55.0	85.9	84.5, 87.2	86.3	92.4	85.5	18.8	17.6, 20.1	29.3	33.0	23.1
Bill Luckett	W	D	45.0	14.1	12.8, 15.5	13.7	7.7	14.5	81.2	79.9, 82.4	70.7	67.0	76.9

Estimates of Voting Patterns by Race in Recent Nonpartisan Judicial Elections

APPENDIX D			Black Voters					White Voters				
Judicial Elections			95% confidence					95% confidence				
	Race	Total Vote	EI rxc	interval	EI 2x2	ER	HP	EI rxc	interval	EI 2x2	ER	HP
2020 General Election												
MS Supreme Court, Central District, Position 1												
Latrice Westbrooks	B	48.5	91.8	90.7, 92.9	91.7	93.1	88.1	7.8	6.3, 9.4	6.1	1.7	11.7
Kenny Griffis	W	51.5	8.2	7.1, 9.3	8.2	6.9	11.9	92.2	90.6, 93.6	93.8	98.4	88.3
2016 General Election												
MS Supreme Court, Southern District, Position 2												
Michael Shareef	B	32.8	47.5	45.3, 49.8	47.1	48.9	47.6	27.6	26.8, 28.4	26.8	27.9	30.4
Dawn Beam	W	67.2	52.5	50.2, 54.7	53.0	51.2	52.4	72.4	71.6, 73.2	73.2	72.0	69.6
2012 General Election												
MS Supreme Court, Central District, Position 1												
Earle Banks	B	44.5	83.3	82.1, 84.5	83.7	83.7	80.7	8.7	7.5, 9.9	7.1	5.6	14.1
William Waller	W	55.5	16.7	15.5, 17.9	16.4	16.3	19.3	91.3	90.9, 92.5	92.9	94.4	85.9

Appendix E

Lisa R. Handley
CURRICULUM VITAE

Professional Experience

Dr. Handley has over thirty years of experience in the areas of redistricting and voting rights, both as a practitioner and an academician, and is recognized nationally and internationally as an expert on these subjects. She has advised numerous clients on redistricting and has served as an expert in dozens of redistricting and voting rights court cases. Her clients have included the U.S. Department of Justice, civil rights organizations, independent redistricting commissions (Arizona, Colorado, Michigan) and scores of state and local jurisdictions. Internationally, Dr. Handley has provided electoral assistance in more than a dozen countries, serving as a consultant on electoral system design and redistricting for the United Nations, UNDP, IFES, and International IDEA. In addition, Dr. Handley served as Chairman of the Electoral Boundaries Commission in the Cayman Islands.

Dr. Handley has been actively involved in research, writing and teaching on the subjects of redistricting and voting rights. She has co-written a book, <u>Minority Representation and the Quest for Voting Equality</u> (Cambridge University Press, 1992) and co-edited a volume (<u>Redistricting in Comparative Perspective</u>, Oxford University Press, 2008) on these subjects. Her research has also appeared in peer-reviewed journals such as *Journal of Politics, Legislative Studies Quarterly, American Politics Quarterly, Journal of Law and Politics*, and *Law and Policy,* as well as law reviews and edited books. She has taught political science undergraduate and graduate courses related to these subjects at several universities including the University of Virginia and George Washington University. Dr. Handley is a Visiting Research Academic at Oxford Brookes University in the United Kingdom.

Dr. Handley is the President of Frontier International Consulting, a consulting firm that specializes in providing electoral assistance in transitional and post-conflict democracies. She also works as an independent election consultant both in the United States and internationally.

Education

Ph.D.   The George Washington University, Political Science, 1991

Present Employment

President, Frontier International Electoral Consulting LLC (since co-founding company in 1998).

Senior International Electoral Consultant, Technical assistance for clients such as the UN, UNDP and IFES on electoral system design and boundary delimitation

Visiting Research Academic, Centre for Development and Emergency Practice (CENDEP), Oxford Brookes University

PTX-004-064

U.S. Clients since 2010

American Civil Liberties Union – expert testimony in Voting Right Act challenges in Arkansas, Georgia and Louisiana, expert testimony in Ohio partisan gerrymander challenge and expert testimony in challenge to Commerce Department inclusion of citizenship question on 2020 census form

Lawyers Committee for Civil Rights Under Law – expert testimony in challenges to statewide judicial elections in Texas and Alabama

US Department of Justice – expert witness testimony in several Section 2 and Section 5 cases (City of Euclid, Euclid School Board, City of Port Chester, City of Eastpoint, two Texas challenges)

Alaska: Redistricting Board (2001 and 2011) – redistricting consultation, expert witness testimony

Albany County, NY (2021) – redistricting consultation

Arizona: Independent Redistricting Board (2001 and 2021) – redistricting consultation

Boston (2022) – redistricting consultation

Colorado: Redistricting Commission (2021), Redistricting Board (2001 and 2011) – redistricting consultation

Connecticut: State Senate and State House of Representatives (2001 and 2011) – redistricting consultation

Kansas: State Legislative Research Department (2001, 2011, 2021) – redistricting consultation

Massachusetts: State Senate (2001 and 2011) – redistricting consultation

Michigan: Michigan Independent Citizens Redistricting Commission (2021) – redistricting consultation

Miami-Dade County, Florida: County Attorney (2001 and 2011) – redistricting consultation

Monroe County, NY (2022) – redistricting consultation

New Mexico: State House (2001) – redistricting consultation, expert witness testimony

New York: State Assembly (2001), State Senate (2021) – redistricting consultation

New York City: Redistricting Commission and Charter Commission (2001, 2011, 2021 and 2022) – redistricting consultation

Pima County, AZ (2022) – redistricting consultation

Rhode Island: State Senate and State House (2001 and 2021) – redistricting consultation

Virginia (2015-2017) – redistricting consultant for Governor during redistricting litigation

2

International Clients

United Nations
- Afghanistan – electoral system design and district delimitation expert
- Bangladesh (UNDP) – redistricting expert
- Sierra Leone (UNDP) – redistricting expert
- Liberia (UNMIL, UN peacekeeping mission) – redistricting expert
- Democratic Republic of the Congo (MONUC, UN peacekeeping mission) – election feasibility mission, electoral system design and redistricting expert
- Kenya (UN) – electoral system design and redistricting expert
- Haiti (UN) – election feasibility mission, electoral system design and redistricting expert
- Zimbabwe (UNDP) – redistricting expert
- Lead Writer on the topic of boundary delimitation (redistricting) for ACE (Joint UN, IFES and IDEA project on the Administration and Cost of Elections Project)

International Foundation for Election Systems (IFES)
- Afghanistan – district delimitation expert
- Sudan – redistricting expert
- Kosovo – electoral system design and redistricting expert
- Nigeria – redistricting expert
- Nepal – redistricting expert
- Georgia – electoral system design and district delimitation expert
- Yemen – redistricting expert
- Lebanon – electoral system design and redistricting expert
- Malaysia – electoral system design and redistricting expert
- Myanmar – electoral system design and redistricting expert
- Ukraine – electoral system design and redistricting expert
- Pakistan – consultant for developing redistricting software
- Principal consultant for the Delimitation Equity Project – conducted research, wrote reference manual and developed training curriculum
- Writer on electoral boundary delimitation (redistricting), Elections Standards Project
- Training – developed training curriculum and conducted training workshops on electoral boundary delimitation (redistricting) in Azerbaijan and Jamaica

International Institute for Democracy and Electoral Assistance (International IDEA):
- Consultant on electoral dispute resolution systems
- Technology consultant on use of GIS for electoral district delimitation
- Training – developed training material and conducted training workshop on electoral boundary delimitation (redistricting) for African election officials (Mauritius)
- Curriculum development – boundary delimitation curriculum for the BRIDGE Project

Other international clients have included The Cayman Islands; the Australian Election Commission; the Boundary Commission of British Columbia, Canada; and the Global Justice Project for Iraq.

3

Publications

Books:

Does Torture Prevention Work? Liverpool University Press, 2016 (served as editor and author, with Richard Carver)

Comparative Redistricting in Perspective, Oxford University Press, 2008 (first editor, with Bernard Grofman).

Delimitation Equity Project: Resource Guide, Center for Transitional and Post-Conflict Governance at IFES and USAID publication, 2006 (lead author).

Minority Representation and the Quest for Voting Equality, Cambridge University Press, 1992 (with Bernard Grofman and Richard Niemi).

Academic Journal Articles:

"Drawing Electoral Districts to Promote Minority Representation, Representation, Volume 58 (3), 2022, pp. 373-389.

"Evaluating national preventive mechanisms: a conceptual model," Journal of Human Rights Practice, Volume 12 (2), July 2020 (with Richard Carver).

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"A Guide to 2000 Redistricting Tools and Technology" in The Real Y2K Problem: Census 2000 Data and Redistricting Technology, edited by Nathaniel Persily, New York: Brennan Center, 2000.

"1990s Issues in Voting Rights," Mississippi Law Journal, 65 (2), Winter 1995 (with Bernard Grofman).

"Minority Turnout and the Creation of Majority-Minority Districts," American Politics Quarterly, 23 (2), April 1995 (with Kimball Brace, Richard Niemi and Harold Stanley).

4

"Identifying and Remedying Racial Gerrymandering," <u>Journal of Law and Politics</u>, 8 (2), Winter 1992 (with Bernard Grofman).

"The Impact of the Voting Rights Act on Minority Representation in Southern State Legislatures," <u>Legislative Studies Quarterly</u>, 16 (1), February 1991 (with Bernard Grofman).

"Minority Population Proportion and Black and Hispanic Congressional Success in the 1970s and 1980s," <u>American Politics Quarterly</u>, 17 (4), October 1989 (with Bernard Grofman).

"Black Representation: Making Sense of Electoral Geography at Different Levels of Government," <u>Legislative Studies Quarterly</u>, 14 (2), May 1989 (with Bernard Grofman).

"Minority Voting Equality: The 65 Percent Rule in Theory and Practice," <u>Law and Policy</u>, 10 (1), January 1988 (with Kimball Brace, Bernard Grofman and Richard Niemi).

"Does Redistricting Aimed to Help Blacks Necessarily Help Republicans?" <u>Journal of Politics</u>, 49 (1), February 1987 (with Kimball Brace and Bernard Grofman).

Chapters in Edited Volumes:

 "Political representation of small minorities and the international-normative framework in districted electoral systems," Addis Ababa University Law School series, 2021 (with Richard Carver and Sam Ponniah).

"Effective torture prevention," <u>Research Handbook on Torture</u>, Sir Malcolm Evans and Jens Modvig (eds), Cheltenham: Edward Elgar, 2020 (with Richard Carver).

"Redistricting" in <u>Oxford Handbook of Electoral Systems</u>, Erik Herron Robert Pekkanen and Matthew Shugart (eds), Oxford: Oxford University Press, 2018.

"Role of the Courts in the Electoral Boundary Delimitation Process," in <u>International Election Remedies</u>, John Hardin Young (ed.), Chicago: American Bar Association Press, 2017.

"One Person, One Vote, Different Values: Comparing Delimitation Practices in India, Canada, the United Kingdom, and the United States," in <u>Fixing Electoral Boundaries in India</u>, edited by Mohd. Sanjeer Alam and K.C. Sivaramakrishnan, New Delhi: Oxford University Press, 2015.

"Delimiting Electoral Boundaries in Post-Conflict Settings," in <u>Comparative Redistricting in Perspective</u>, edited by Lisa Handley and Bernard Grofman, Oxford: Oxford University Press, 2008.

"A Comparative Survey of Structures and Criteria for Boundary Delimitation," in <u>Comparative Redistricting in Perspective</u>, edited by Lisa Handley and Bernard Grofman, Oxford: Oxford University Press, 2008.

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"Drawing Effective Minority Districts: A Conceptual Model," in <u>Voting Rights and Minority</u> Representation, edited by David Bositis, published by the Joint Center for Political and Economic Studies, Washington DC, and University Press of America, New York, 2006.

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"Voting Rights in the 1990s: An Overview," in <u>Race and Redistricting in the 1990s</u>, edited by Bernard Grofman; New York: Agathon Press, 1998 (with Bernard Grofman and Wayne Arden).

"Racial Context, the 1968 Wallace Vote and Southern Presidential Dealignment: Evidence from North Carolina and Elsewhere," in <u>Spatial and Contextual Models in Political Research</u>, edited by Munroe Eagles; Taylor and Francis Publishing Co., 1995 (with Bernard Grofman).

"The Impact of the Voting Rights Act on Minority Representation: Black Officeholding in Southern State Legislatures and Congressional Delegations," in <u>The Quiet Revolution: The Impact of the Voting Rights Act in the South, 1965-1990</u>, eds. Chandler Davidson and Bernard Grofman, Princeton University Press, 1994 (with Bernard Grofman).

"Preconditions for Black and Hispanic Congressional Success," in <u>United States Electoral Systems: Their Impact on Women and Minorities</u>, eds. Wilma Rule and Joseph Zimmerman, Greenwood Press, 1992 (with Bernard Grofman).

Additional Writings of Note:

"Boundary Delimitation" Topic Area for the Administration and Cost of Elections (ACE) Project, 1998. Published by the ACE Project on the ACE website (electronic publication at www.aceproject.org).

Amicus brief presented to the US Supreme Court in <u>Gill v. Whitford</u>, Brief of Political Science Professors as Amici Curiae, 2017 (one of many social scientists to sign brief)

Amicus brief presented to the US Supreme Court in <u>Shelby County v. Holder</u>, Brief of Historians and Social Scientists as Amici Curiae, 2013 (one of several dozen historians and social scientists to sign brief)

Amicus brief presented to the US Supreme Court in <u>Bartlett v. Strickland</u>, 2008 (with Nathaniel Persily, Bernard Grofman, Bruce Cain, and Theodore Arrington).

6

Recent Court Cases

Pending cases:

- Michigan: *Agee v. Benson* (Case No. 1:22-CV-00272-PLM-RMK-JTN) (U.S. District Court, Western District of Michigan, Southern Division)

- Louisiana: *Robinson v. Ardoin* (Civil Action No. 3:22-cv-00211-SDD-RLB) (U.S. District Court, Middle District of Louisiana)

- Georgia: *Alpha Phi Alpha Fraternity et al. v. Raffensperger et al.* (Docket Number: 121-CV-05337-SCJ) (Northern District of Georgia)

- Arkansas: *Arkansas State Conference NAACP et al. v. Arkansas Board of Apportionment et al.* (Case Number: 4:21-cv-01239-LPR) (Eastern District of Arkansas)

- Ohio: *League of Women Voters of Ohio et al. v. Ohio Redistricting Commission et al.* (Case Number: 2021-1193) (Supreme Court of Ohio); *League of Women Voters of Ohio et al. v. Governor DeWine* (Case Number: 2021-1449) (Supreme Court of Ohio)

Ohio Philip Randolph Institute v. Larry Householder (2019) – partisan gerrymander challenge to Ohio congressional districts; testifying expert for ACLU on minority voting patterns

State of New York v. U.S. Department of Commerce (2018-2019) – challenge to inclusion of citizenship question on 2020 census form; testifying expert on behalf of ACLU

U.S. v. City of Eastpointe (settled 2019) – minority vote dilution challenge to City of Eastpointe, Michigan, at-large city council election system; testifying expert on behalf of U.S. Department of Justice

Alabama NAACP v. State of Alabama (decided 2020) – minority vote dilution challenge to Alabama statewide judicial election system; testifying expert on behalf of Lawyers Committee for Civil Rights Under Law

Lopez v. Abbott (2017-2018) – minority vote dilution challenge to Texas statewide judicial election system; testifying expert on behalf of Lawyers Committee for Civil Rights Under Law

Personhuballuah v. Alcorn (2015-2017) – racial gerrymandering challenge to Virginia congressional districts; expert for the Attorney General and Governor of the State of Virginia

7